Oracle® Secure Enterprise Search

Installation and Upgrade Guide

10*g* Release 1 (10.1.8) for Microsoft Windows (32-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

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 Windows operating systems: Windows 2000, Windows Server 2003, and Windows XP.

This section contains the following topics:

- Checking the Software Requirements
- Checking Hardware Requirements
- Configuring a Loopback Adapter
- Changing the Oracle SES Middle Tier Port

Checking the Software Requirements

This section lists software requirements for Microsoft Windows installations.

A Windows system must meet the following minimum operating system requirements:

ORACLE®

- Windows Server 2003 - all editions

- Windows 2000 with Service Pack 2 or later

- Windows XP Professional

Checking Hardware Requirements

Oracle SES requires a minimum of 2 gigabytes of disk space. This includes 1 gigabyte to install and approximately 0.5 gigabytes 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

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

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

Configuring a Loopback Adapter

A loopback adapter is required if:

- You are installing on a Dynamic Host Configuration Protocol (DHCP) computer, or

- You are installing on a non-networked computer and plan to connect the computer to a network after installation

For detailed instructions, see the *Oracle Database Installation Guide 10g Release 1 (10.1.0.2.0) for Windows*. This is posted at

http://download.oracle.com/docs/html/B10130_02/reqs.htm#sthref370

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. Start the middle tier with the following command:

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

Installation Tasks

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

To install the Oracle Secure Enterprise Search software:
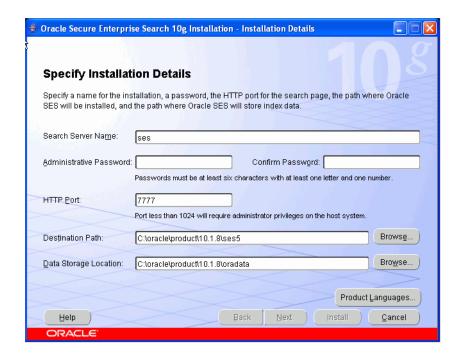
1. Ensure that you satisfy all minimum requirements, as described in "Pre-Installation Tasks" on page 1.

2. Log on as a member of the Administrators group to the computer on which you will install Oracle components. This user *cannot* be part of more than one domain in the same network.

   If you are installing on a Primary Domain Controller (PDC) or a Backup Domain Controller (BDC), then log on as a member of the Domain Administrators group.

3. Insert the DVD or navigate to the directory where you downloaded or copied the installation files. Use the same installation media to install Oracle Secure Enterprise Search on all supported Windows platforms.

4. Start the installer:

   - When installing from a hard disk, double-click setup.exe located in the directory you created for the downloaded or copied installation files.

   - When installing from the DVD, enter the following:

     ```
     prompt> cd
     prompt> CDROM:\setup.exe
     ```

   This launches Oracle Universal Installer. 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.

5. Click **Install**. The installer will perform the prerequisite checks and proceed with the installation.

6. When all of the configuration tools have finished, click **Exit**, then click **Yes** to exit from Oracle Universal Installer.

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.

Creating Registry Keys

If this is the first time-installation of Oracle SES, then you must create the registry keys before starting.

```
HKEY_LOCAL_MACHINE \ SOFTWARE \ ORACLE \ inst_loc = Inventory_Location
```

The *Inventory_Location* is the location of your installer files. For example:

```
Drive_Letter:\program files\oracle\Inventory
```

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:

    ```
    # copy server.rsp Drive_Letter:\1018\Disk1\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:

```
Drive_Letter:\> setup.exe -silent -responseFile absolute_path_and_filename
```

> **WARNING: During installation, response files may be copied to subdirectories under %*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, Oracle recommends that you delete any copies of the response files that remain in your file system.**

The success or failure of silent installations is logged in the `installaction<timestamp>.log` file. Additionally, the silent installation creates the `silentinstall<timestamp>.log` file. The log files are created in

the `C:\Program Files\Oracle\Inventory\oui_inventory\Logs`
directory.

The `silentinstall<timestamp>.log` file contains the following line if the
installation was successful:

```
The installation of Oracle Secure Enterprise Search <Installation Type> was
successful.
```

The `installaction<timestamp>.log` file contains specific information for
each installation type.

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

The success or failure of a silent installation is logged in the
`silentinstall<timestamp>.log` file. This file is created in the
`Inventory\log` directory.

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

The following URLs indicate a successful installation:

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

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

Increase Memory - Optional

On Windows, Oracle SES cannot allocate memory (SGA + PGA) correctly if the
machine has more than 2G physical memory. The maximum memory usage
Oracle SES can allocate is 800M.

If your server has more than 2G physical memory, you can manually increase the
SGA and PGA memory size.

> **Note:** Because this task increases the SGA and the PGA to improve
> cache hit ratio, it should be done by an Oracle Database administrator.

> **See Also:** *Oracle Database Concepts* for more information on Oracle
> memory architecture

In the following steps:

- `%ORACLE_HOME%` is the directory where Oracle SES was installed.

- `<SES Password>` is the Oracle SES administrator password specified during installation.

- `<SES NAME>` is the Oracle SES instance name specified during installation.

1. Open the original initialization parameter file (`init.ora.*)` file with a text editor. It is in the `%ORACLE_HOME%\admin\<SES NAME>\pfile` directory. Remember to make a backup of this file.

2. Find `sga_target` and `pga_aggregate_target`, and increase the size of each. For example, increase the SGA to 800M with `sga_target=800M`.

   Specify 30% of physical memory to `sga_target` and 10% of physical memory to `pga_aggregate_target`. 1.5G is the limit for `sga_target`, even if you specify more than 1.5G. Save the modified file.

3. Start Oracle SES.

4. Enter `sqlplus` in a command prompt to start SQL*Plus.

5. Enter the following in the SQL*Plus login prompt:

   ```
   sys/<SES Password> as sysdba
   ```

6. Create a new server parameter file (`SPFILE`) with the following statement:

   ```
   SQL> CREATE SPFILE='%ORACLE_HOME%\dbs\SPFILE_NEW.ORA'
   FROM PFILE='%ORACLE_HOME%\admin\<SES NAME>\pfile\init.ora.*';
   ```

   Specify a new file name for `SPFILE`, and specify the modified `init.ora.*` file for initialization parameter file (`pfile`).

   > **See Also:** *Oracle Database SQL Reference* for details on the `CREATE SPFILE` statement

7. Enter `exit` to quit SQL*Plus.

8. Shut down Oracle SES.

9. Make a backup for the original `SPFILE`: `%ORACLE_HOME%\dbs\SPFILE.ORA`. Then, rename the newly created `%ORACLE_HOME%\dbs\SPFILE_NEW.ORA` to `SPFILE.ORA`.

10. Start Oracle SES.

11. To confirm that your change was applied, launch SQL*Plus with the `eqsys/<SES Password>` user. Then enter the following:

    ```
    SQL> show parameter sga_target
    SQL> show parameter pga_aggregat_target
    ```

    If Oracle SES cannot start, then restore the `SPFILE.ORA` and start Oracle SES again.

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 13

Uninstallation Tasks

To uninstall Oracle SES, navigate to **Control Panel - Add or Remove Programs**, and remove Oracle Secure Enterprise Search.

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:

- Starting Oracle Secure Enterprise Search

- Backing Up the Oracle SES 10.1.6 Instance

- Backing Up the OC4J Service

- Moving QTA Jar Files

Starting Oracle Secure Enterprise Search

Oracle SES should be started before upgrade. For example, navigate to the `bin` directory and run `searchctl startall`.

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, perform the following steps.

1. Using the Windows registry editor `regedit`, back up the following Windows registry entry: `\HKEY_LOCAL_MACHINE\software\oracle`.

2. Back up the OC4J service as described in "Backing Up the OC4J Service".

3. Ensure that you backup the following folders:

   - %ORACLE_HOME%: This is where Oracle SES 10.1.6 is installed.

   - oradata: This is the location you specified for **Data Storage Location** during the installation.

   - Inventory_Location: This is the location of your installer files. For example: Drive_Letter:\program files\oracle\Inventory

Restoring the Oracle SES 10.1.6 Instance from Backup

1. Using the Windows registry editor regedit, delete the following Windows registry entry: \HKEY_LOCAL_MACHINE\software\oracle.

   Invoke the import function in the registry editor and point it to the file that was backed up, as described in "Backing Up the Oracle SES 10.1.6 Instance".

2. Restore the OC4J service as described in "Restoring the OC4J Service".

3. Ensure that the folders that were backed up in "Backing Up the Oracle SES 10.1.6 Instance" are restored to their pre-upgrade locations. The restored folders should be an exact replica of the backup that was performed.

Backing Up the OC4J Service

Using the Windows registry editor regedit, back up the following Windows registry entry:

\HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Oracle%ORACLE_SID%OC4J

where %ORACLE_SID% is the name of your search instance.

This corresponds to the OC4J service. The regedit utility has an export function that lets you specify a file that contains the backed up registry entry.

Restoring the OC4J Service Using the Windows registry editor regedit, delete the following Windows registry entry:

\HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Oracle%ORACLE_SID%OC4J

where %ORACLE_SID% is the name of your search instance.

Invoke the import function in the registry editor and point it to the file that was backed up, as described in "Backing Up the OC4J Service" on page 9.

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:

    ```
    # copy upgrade.rsp Drive_Letter:\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:

```
Drive_Letter:\> setup.exe -silent -responseFile absolute_path_to_response_
file
```

> **WARNING:** During upgrade, response files may be copied to subdirectories in the 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

This section contains the following topics:

- Migrating Federated Sources
- Migrating Single Sign-On Configuration
- Changes in 10.1.8

> **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.

If the remote Oracle SES instances are using the 10.1.6 installation, then follow Appendix A, "10.1.6 to 10.1.8 Upgrade" in the *Oracle Secure Enterprise Search Administrator's Guide*, or 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`.

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 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.

- 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

Oracle Support Services

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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.

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- Helpful Web sites
- Support resources
- Oracle Support Portfolio
- Oracle Support Services news

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Oracle*Metalink* options include:

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

You can access Oracle*Metalink* at

http://metalink.oracle.com

Quick Reference

Resource	Contact Information or Web Site
Oracle*Metalink*	http://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
Locate local Oracle Support Centers outside the U.S.A.	http://www.oracle.com/support
Locate local Oracle offices outside the U.S.A	http://www.oracle.com/global/index.html
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