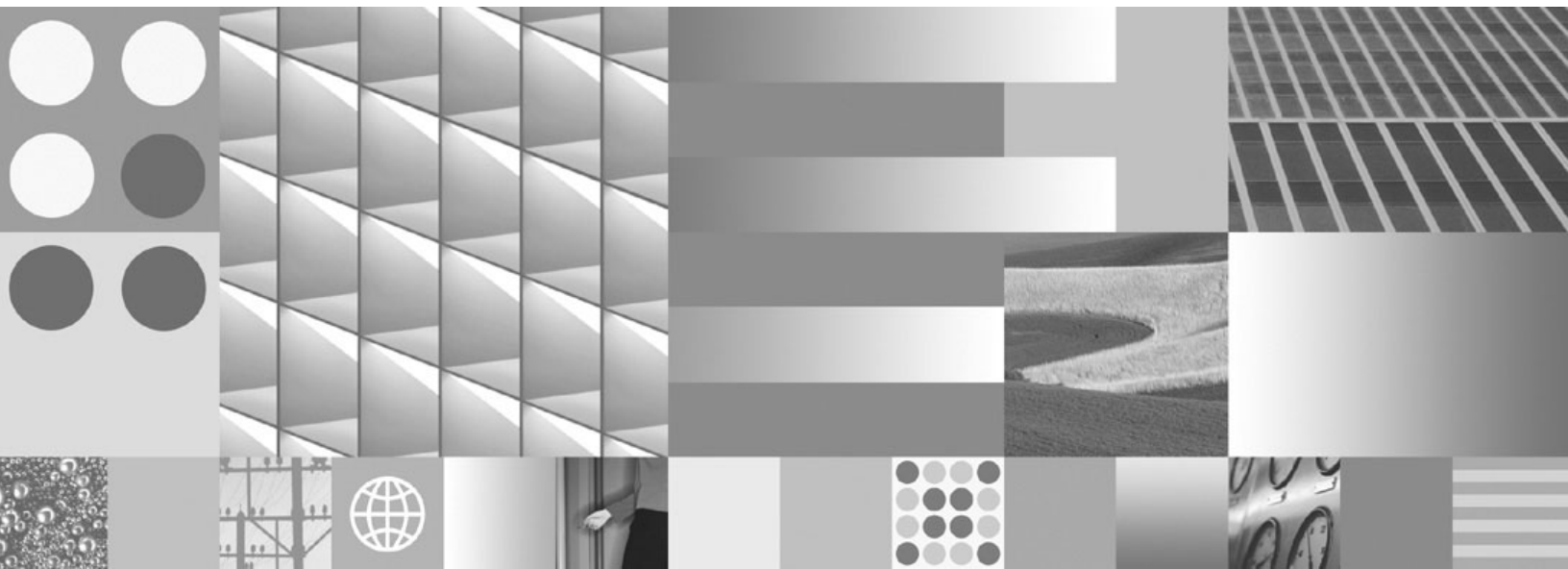


Installation Guide for Enterprise Search



Installation Guide for Enterprise Search

Note

Before using this information and the product it supports, read the information in "Notices and trademarks" on page 63.

Edition Notice

This edition applies to version 8, release 5, modification 0 of IBM OmniFind Enterprise Edition (product number 5724-C74) and to all subsequent releases and modifications until otherwise indicated in new editions.

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Contents

ibm.com and related resources v

- How to send your comments v
- Contacting IBM vi

Enterprise search installation 1

Planning for enterprise search installation 3

- Determining the type of installation 3
- Memory models for enterprise search 5
- Preparing your operating system for enterprise search installation 7
 - Preparing AIX 7
 - Preparing Solaris Operating Environment 8
 - Preparing Windows 8
- Integration with WebSphere Information Integrator Content Edition 9
- Gathering information for installation 10
 - Installation and data directories 10
 - Enterprise search administrator ID and password 11
 - Installation information form 13
- Installation modes: graphical, silent, and text 15
 - Response files for silent installation 16

Upgrading to OmniFind Enterprise Edition, Version 8.5 19

- Removing older versions of WebSphere Application Server 19
- Using WebSphere Application Server for non-enterprise search applications 20
- Updating collections after you upgrade enterprise search 21

Installing enterprise search 23

- Single server installation overview 23
 - Installing enterprise search on a single server 24
- Two server installation overview 26
 - Installing the crawler, index, and search components for a two server installation 26
 - Installing the second search server for a two server installation 29
- Four server installation overview 31
 - Installing the crawler server for a four server installation 33
 - Installing the search servers for a four server installation 35
 - Installing the index server for a four server installation 37

Post-installation tasks 39

- Configuring the Windows service for enterprise search 39
- Crawler setup requirements 39
- Registering the DB2 Enterprise Server license key 41
- Setting ulimit values for enterprise search 42
- Setting up the information center to access the public Web site 44
- Mapping collection data to CIFS drives 44

Starting an enterprise search system 47

- Starting the First Steps program 48
- Starting and stopping the information center 48

Removing enterprise search 51

- Removing enterprise search from AIX, Linux, and Solaris systems 51
- Removing enterprise search from Windows systems 51

Troubleshooting installation problems 53

- Running out of space during installation 53
- ArrayIndexOutOfBoundsException occurs during installation 53
- Installation stops after prerequisite software is installed on AIX, Linux, and Solaris 54
- Installation on Linux stops during validation 54
- Problems installing or starting on Windows 55
 - Cannot install WebSphere Application Server on Windows 56
 - WebSphere Application Server is installed and you are prompted for the CD 57
 - Security roles for enterprise search applications are not set properly in WebSphere Application Server 58
 - Cancelling the removal program for a fix pack before it finishes 58

Enterprise search documentation . . . 59

Accessibility features 61

Notices and trademarks 63

- Notices 63
- Trademarks 65

Index 67

ibm.com and related resources

Product support and documentation are available from [ibm.com](http://www.ibm.com)[®].

Support and assistance

Product support is available on the Web.

IBM[®] OmniFind[™] Enterprise Edition

<http://www.ibm.com/software/data/enterprise-search/omnifind-enterprise/support.html>

IBM OmniFind Discovery Edition

<http://www.ibm.com/software/data/enterprise-search/omnifind-discovery/support.html>

IBM OmniFind Yahoo! Edition

<http://www.ibm.com/software/data/enterprise-search/omnifind-yahoo/support.html>

Information center

You can view the product documentation in an Eclipse-based information center with a Web browser. See the information center at <http://publib.boulder.ibm.com/infocenter/discover/v8r5m0/>.

PDF publications

You can view the PDF files online using the Adobe[®] Acrobat Reader for your operating system. If you do not have the Acrobat Reader installed, you can download it from the Adobe Web site at <http://www.adobe.com>.

See the following PDF publications Web sites:

Product	Web site address
OmniFind Enterprise Edition, Version 8.5	http://www.ibm.com/support/docview.wss?rs=63&uid=swg27010938
OmniFind Discovery Edition, Version 8.4	http://www.ibm.com/support/docview.wss?rs=3035&uid=swg27008552
OmniFind Yahoo! Edition, Version 8.4	http://www.ibm.com/support/docview.wss?rs=3193&uid=swg27008932

How to send your comments

Your feedback is important in helping to provide the most accurate and highest quality information.

Send your comments by using the online reader comment form at https://www14.software.ibm.com/webapp/iwm/web/signup.do?lang=en_US&source=swg-rcf.

Contacting IBM

To contact IBM customer service in the United States or Canada, call 1-800-IBM-SERV (1-800-426-7378).

To learn about available service options, call one of the following numbers:

- In the United States: 1-888-426-4343
- In Canada: 1-800-465-9600

For more information about how to contact IBM, see the Contact IBM Web site at <http://www.ibm.com/contact/us/>.

Enterprise search installation

You can run the installation program for IBM OmniFind Enterprise Edition to install a new enterprise search system or to upgrade a version 8.4 enterprise search system to version 8.5.

Required software in the product package

The enterprise search product requires WebSphere® Application Server. If WebSphere Application Server is not already installed, the enterprise search installation program can install Version 6.1 for you. This approach is the recommended way to install the Web application server software that is required for enterprise search.

If a supported version of WebSphere Application Server is installed, the installation program asks for the installation paths but does not attempt to install Version 6.1. To take advantage of performance and other enhancements, you might want to manually upgrade to WebSphere Application Server, Version 6.1 before you run the installation program for enterprise search. The product package provides CDs and electronic images for the base WebSphere Application Server product and the required supplemental software (IBM HTTP Server and Web Server Plug-ins).

For information about the versions of WebSphere Application Server that you can use for enterprise search, see <http://www.ibm.com/support/docview.wss?rs=63&=swg27010937>.

Optional software in the product package

The enterprise search product package includes WebSphere Information Integrator Content Edition, Version 8.4. If WebSphere Information Integrator Content Edition is not already installed, the enterprise search installation program can install Version 8.4 for you.

If a previous version of WebSphere Information Integrator Content Edition is installed, and you want to use the Version 8.4 connectors for enterprise search, you must manually upgrade to WebSphere Information Integrator Content Edition, Version 8.4. For installation instructions, see the WebSphere Information Integrator Content Edition Information Center at <http://publib.boulder.ibm.com/infocenter/ce/v8r4/>.

The enterprise search product package also includes the following optional software that you can install manually:

- DB2® Enterprise Server Edition, Version 9.1 for Linux®, UNIX®, and Windows®
- WebSphere Federation Server, Version 9.1.1

Important: If you install DB2 Enterprise Server Edition, see the post-installation instructions for information about registering the DB2 product license key.

Information and support

To obtain support, and for detailed information about system requirements and supported data source types, see the following Web sites:

- [OmniFind Enterprise Edition Support](#)
- [Requirements for OmniFind Enterprise Edition, Version 8.5](#)
- [OmniFind Enterprise Edition, Version 8.5 information center](#)
- [OmniFind Enterprise Edition, Version 8.5 PDF documentation](#)

Related concepts

[“Integration with WebSphere Information Integrator Content Edition”](#) on page 9

[“Upgrading to OmniFind Enterprise Edition, Version 8.5”](#) on page 19

Related tasks

[“Planning for enterprise search installation”](#) on page 3

[“Installing enterprise search”](#) on page 23

[“Removing enterprise search”](#) on page 51

Related reference

[“Troubleshooting installation problems”](#) on page 53

Planning for enterprise search installation

Ensure that you have the supported operating system, required software, and adequate memory and hard disk space before you install the software for enterprise search.

You should also print the installation form to record information about your servers.

Before you install enterprise search, consider the following issues:

- Are you installing new software for the first time or are you upgrading?
If you are installing enterprise search software for the first time, decide whether you want to install on one server, two servers, or four servers. No other configurations are supported. See “Determining the type of installation.”
If you are upgrading to a new version of enterprise search, see “Upgrading to OmniFind Enterprise Edition, Version 8.5” on page 19.
- Does your system meet the required operating system, hardware and disk space requirements? See Requirements for OmniFind Enterprise Edition, Version 8.5.
- Do you have adequate memory? You can select a memory model during installation to optimize performance according to your system environment. See “Memory models for enterprise search” on page 5.
- How do you want to install the required software: by using the enterprise search installation program (recommended) or by installing the required software yourself?

The installation program prompts you to insert the WebSphere Application Server CDs. If you do not have the CDs, you can specify the location of the electronic images.

If you want to install the required software manually, be sure to install a supported version. After you install the required software, install the software for enterprise search.

- With what mode do you want to run the installation program? You can install by using the enterprise search graphical interface, by using the text or console interface, or by using response files (silent installation). See “Installation modes: graphical, silent, and text” on page 15.

Related concepts

“Upgrading to OmniFind Enterprise Edition, Version 8.5” on page 19

Related tasks

“Installing enterprise search” on page 23

Related reference

“Installation information form” on page 13

Determining the type of installation

You can install OmniFind Enterprise Edition, Version 8.5 on one server, two servers, or four servers.

Single server installation

A single server installation is a good choice for an entry level or small

business solution.

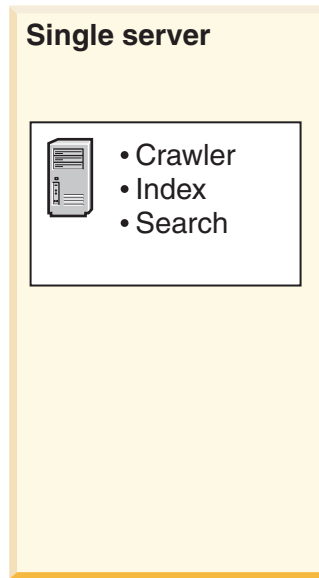


Figure 1. Single server configuration

Two server installation

A two server installation provides increased scalability and offers failover support by installing a second search component on a separate server.

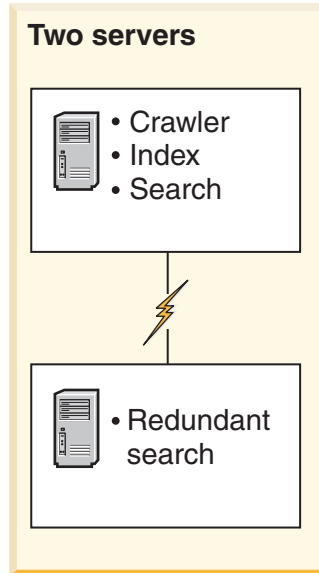


Figure 2. Two server configuration

Four server installation

A four server installation supports large enterprises with high-end production systems. In a four server installation, the indexing components are installed on one server, software for crawling documents is installed on a second server, and the search components are installed on two additional servers.

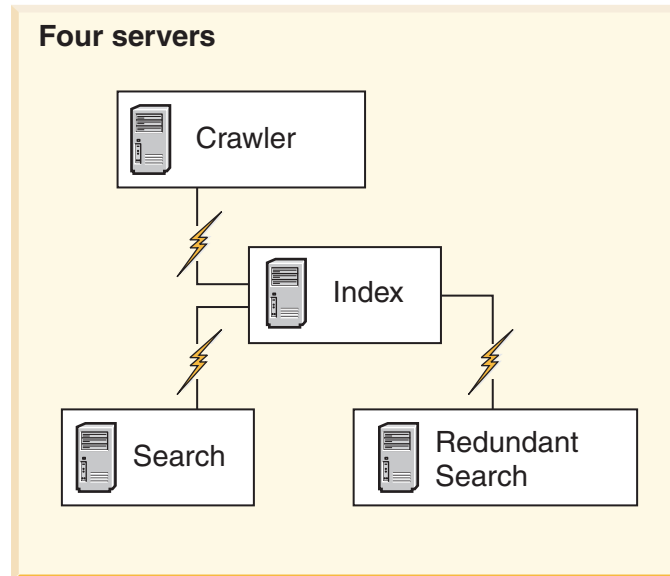


Figure 3. Four server configuration

Related concepts

“Single server installation overview” on page 23

“Two server installation overview” on page 26

“Four server installation overview” on page 31

Memory models for enterprise search

When you install enterprise search, you select a memory configuration that is appropriate for your expected workload.

To optimize performance, different memory configurations are installed for small, medium, and large enterprise search systems.

The memory model that you select does not have to correlate to the number of servers in your enterprise search system. For example, a single server installation might have large memory requirements and a multiple server installation might have small memory requirements across all of the servers.

If you install enterprise search on two or four servers, be sure to specify the same memory model on all servers. Use the following guidelines to determine the appropriate selection for your enterprise. Note that this information is provided as a guideline only; actual requirements depend on your system configuration.

General concepts:

Read the following concepts before you attempt to assess the anticipated size and workload of your system.

Total documents

This is an estimate of the total number of documents in your enterprise search system, regardless of how many collections exist.

Maximum page size

This is an estimate of the maximum size of a single document.

Active collections

This is an estimate of how many collections are active at the same time. An active collection is one in which at least one crawler is active, the parser is active, and the search servers are active.

Memory

This is an estimate of the amount of memory that must be available to run enterprise search autonomically.

Index builds

This is an estimate of the number of index builds that can be processed concurrently.

Search processing

This is an estimate of the number of queries per second per search server. This is not the number of queries that are processed per collection.

Memory models:

Small A small memory model is appropriate for entry level solutions, or if you run enterprise search on a notebook computer or for demonstration purposes. A small system is one that approximates the following workload estimates:

- Total documents: 100 000
- Maximum page size: 1 MB
- Active collections: 1
- Memory (per server): 2 GB RAM
- Number of CPUs (per server): 1 or 2
- Index builds: 1 at a time
- Search processing: 1 query per second

Medium

A medium memory model is appropriate for medium sized solutions. For example, this might be the appropriate choice if you run enterprise search on one or two servers. A medium system is one that approximates the following workload estimates:

- Total documents: 2 000 000
- Maximum page size: 30 MB
- Active collections: 2
- Memory (per server): 4 GB RAM
- Number of CPUs (per server): 2 or 4
- Index builds: 1 at a time
- Search processing: 5 queries per second

Large A large memory model is appropriate for large enterprise solutions. For example, this might be the appropriate choice if you run enterprise search on multiple servers. A large system is one that approximates the following workload estimates:

- Total documents: 20 000 000
- Maximum page size: 30 MB
- Active collections: 5
- Memory (per server): 8 GB RAM
- Number of CPUs (per server): 4
- Index builds: 2 at a time
- Search processing: 8 queries per second

Related tasks

“Gathering information for installation” on page 10

Preparing your operating system for enterprise search installation

Before you install required software for enterprise search, ensure that your operating system includes all required packages, fixes, and patches with the correct maintenance levels as specified in the installation requirements.

Firewalls: For multiple server installations, if enterprise search is installed on an operating system with an enabled firewall, the firewall software must be disabled to allow communication between the enterprise search servers. You cannot enable a firewall between any of the enterprise search servers at any time.

For single server installations and multiple server installations, if enterprise search is installed on an operating system with an enabled firewall, the enterprise search crawlers can crawl data in the trusted zone only.

Preparing AIX

Before you install enterprise search, you must apply all required maintenance fixes for your version of AIX®.

For information about the required maintenance levels and how to apply the fixes, see Requirements for OmniFind Enterprise Edition, Version 8.5.

Before you begin

Because OmniFind Enterprise Edition runs in 64-bit mode on the AIX operating system, AIX must be configured properly to run 64-bit applications. Running either the 32-bit or the 64-bit kernel does not affect the ability to run 64-bit applications. For OmniFind Enterprise Edition, it does not matter which kernel is used. However, you must enable the 64-bit application environment or OmniFind Enterprise Edition will not work properly. Do not start the enterprise search system until AIX 64-bit mode is enabled.

To enable the 64-bit application environment on AIX:

1. Log in as the root user.
2. Run the **smitty** command.
3. Go to **System Environments**.
4. Go to **Enable 64-bit Application Environment** and select **Enable Now**.

Crawling DB2 sources

If you plan to crawl DB2 sources on an AIX server, you must set the environment variable `EXTSHM=ON` and export it. For example, add the following lines to the `db2_inst_home/sql1lib/userprofile` file. If this file does not exist, create a `userprofile` file with permissions 755 and specify these lines.

```
EXTSHM=ON
export EXTSHM
```

For more information, see <http://www.ibm.com/support/docview.wss?rs=216&uid=swg21079674>.

Related reference

“Troubleshooting installation problems” on page 53

Preparing Solaris Operating Environment

Before you install enterprise search, you must ensure that you have applied all required patches for your version of Solaris.

For information about the required patches and how to verify that the patches are installed, see Requirements for OmniFind Enterprise Edition, Version 8.5.

Related reference

“Troubleshooting installation problems” on page 53

Preparing Windows

The enterprise search installation program uses Windows APIs that require additional user rights to function properly. If these user rights are not granted, the enterprise search installation will fail.

About this task

If the user ID that you use to install enterprise search belongs to a domain, the domain policies override the local user settings. Before you assign user rights to a user ID, ensure that the domain does not deny any of the required rights. For example, if the domain denies the right to act as part of the operating system, then the user is denied that right.

If an attempt to install enterprise search fails because these user rights are not correctly assigned, you must remove the enterprise search software, assign the correct user rights to the user ID that you use to install enterprise search, and run the installation program again.

You must also ensure that you are using a supported version of the Windows operating system. For information, see Requirements for OmniFind Enterprise Edition, Version 8.5.

Procedure

The user ID that you use to install enterprise search must have Windows administrator privileges and requires additional user rights. To grant these rights:

1. In Windows, click **Control Panel** → **User Accounts**.
2. Ensure that the user ID that you use to install enterprise search has administrator privileges.
3. In Windows, open **Control Panel** → **Administrative tools** → **Local Security Policy** → **Local Policies** → **User Rights Assignment**.
4. Ensure that the user ID that you use to install enterprise search has the following user rights:
 - Act as part of the operating system
 - Lock pages in memory
 - Create a token object
 - Replace a process level token
 - Impersonate a client after authentication
 - Increase quotas (In Windows 2003, this option is labeled Adjust memory quotas for a process.)
 - Log on as a service

Running WebSphere Application Server as a service: On Windows, the OmniFind Enterprise Edition installation program provides an option to set up WebSphere Application Server and the IBM HTTP Server as services. These services are set up only if you use OmniFind Enterprise Edition to install WebSphere Application Server.

- If you set up WebSphere Application Server as a service, you must ensure that the WebSphere Application Server user ID that is associated with the Windows service has the appropriate administrative privileges and user rights. The WebSphere Application Server user ID must be an administrator ID with the following user rights:
 - Act as part of the operating system
 - Log on as a service
- If you do not set up WebSphere Application Server as a service, the WebSphere Application Server installation will complete successfully. When WebSphere Application Server does not run as a service, you do not need to set up or verify user rights for the WebSphere Application Server user ID.

Related troubleshooting information

“Cannot install WebSphere Application Server on Windows” on page 56

Related concepts

“Enterprise search administrator ID and password” on page 11

Related tasks

“Configuring the Windows service for enterprise search” on page 39

Related reference

“Troubleshooting installation problems” on page 53

Integration with WebSphere Information Integrator Content Edition

If you plan to search WebSphere Information Integrator Content Edition data sources, the enterprise search installation program can install the required software for you.

You can use the Content Edition crawler to crawl various types of WebSphere Information Integrator Content Edition data sources, such as Hummingbird, FileNet, Documentum, and so on. For a list of supported data sources, see Requirements for OmniFind Enterprise Edition, Version 8.5.

WebSphere Information Integrator Content Edition, Version 8.4 is installed

If WebSphere Information Integrator Content Edition, Version 8.4 is installed, you can use that software for enterprise search.

WebSphere Information Integrator Content Edition, Version 8.3 is installed

If WebSphere Information Integrator Content Edition, Version 8.3 is installed, you can use that software for enterprise search. However, if you want to use the Version 8.4 connector software, you must manually upgrade to Version 8.4.

The product CD and electronic distribution image for WebSphere Information Integrator Content Edition, Version 8.4 is included in the enterprise search product package. For installation instructions, see the WebSphere Information Integrator Content Edition Information Center at <http://publib.boulder.ibm.com/infocenter/ce/v8r4/>.

WebSphere Information Integrator Content Edition is not installed

If you did not previously install WebSphere Information Integrator Content Edition, you can select the option to install the WebSphere Information

Integrator Content Edition, Version 8.4 when you install enterprise search. For a multiple server installation, select this option when you install the crawler server.

The installation program prompts you specify the path for the product CD or electronic distribution image.

If you do not select the option to install the WebSphere Information Integrator Content Edition, Version 8.4 software when you install enterprise search, you can install it manually at a later time.

Related concepts

 Content Edition crawlers

Related reference

“Crawler setup requirements” on page 39

Gathering information for installation

When you run the installation program for enterprise search, you provide information about your operating system environment and preferred administrative user ID.

If you do not want to use the default directory structure, you need to decide where the installation and data directories are to be installed. You also need to decide whether the installation program is to create a user ID to use for enterprise search administration activities or whether you want to use an existing user ID.

Before you install, you should assess system memory requirements and your expected workload. To optimize performance, the installation program adjusts configuration parameters based on the memory model that you select for your environment.

To ensure that you have the necessary information available before you start the installation program, print the installation form and record information about the server or servers that you plan to use for enterprise search.

Related concepts

“Memory models for enterprise search” on page 5

Installation and data directories

When you install enterprise search, the installation program creates the installation directory and the data directory. You should dedicate more disk space to the data directory.

Installation directory

The installation directory contains files such as executable files and default files that do not change when the system is running. You can change the default installation directory, but for a multiple server installation, use the same installation directory path on all servers. The installation program creates the `ES_INSTALL_ROOT` environment variable for the installation directory, and the documentation uses `ES_INSTALL_ROOT` to represent the installation directory.

Default paths for the installation directory:

AIX: `/usr/IBM/es`

Linux: `/opt/IBM/es`

Solaris: `/opt/IBM/es`

Windows: C:\Program Files\IBM\es

If you do not use the default paths on AIX, Linux, or Solaris, ensure that the path that you specify for the installation directory does not contain spaces in the path name.

Data directory

The data directory contains files such as configuration files and data files that the system updates regularly. Dedicate the largest file partition or disk space on your system to the data directory. The installation program creates the ES_NODE_ROOT environment variable for the data directory, and the documentation uses ES_NODE_ROOT to represent the data directory.

The default path for the data directory is in a subdirectory of the installation directory that matches the ID that you specify for the enterprise search administrator ID. For example, if you specify esadmin as the administrator ID, these are the default data directory paths:

AIX: /usr/IBM/es/esadmin

Linux: /opt/IBM/es/esadmin

Solaris: /opt/IBM/es/esadmin

Windows: C:\Program Files\IBM\es\esadmin

If you do not use the default paths on AIX, Linux, or Solaris, ensure that the path that you specify for the data directory does not contain spaces in the path name.

Related reference

“Installation information form” on page 13

Enterprise search administrator ID and password

The enterprise search administrator ID and password must be the same on all enterprise search servers.

During the enterprise search installation, you can specify an existing user ID and password to use for the enterprise search administrator ID or allow the installation program to create the user ID and password. If the installation program creates the user ID, it assigns all required user rights. If you use an existing user ID and password, the installation program might modify the user rights for that user ID so that the enterprise search administrator can properly run the system.

Root accounts

If you specify an existing user ID for the enterprise search administrator ID, ensure that the user ID that you specify is not a root account. Specify a non-root account or allow the installation program to create the user ID for you.

Special character restrictions

If you use an existing user ID for the enterprise search administrator ID, ensure that the ID contains only letters, digits, and underscore characters. The user ID cannot contain other special characters.

Passwords:

You can use the following special characters in passwords. A password that uses these characters must be enclosed by quotation marks.

! @ # \$ % ^ & * () - _ = + , . / < > ? .

AIX, Linux, or Solaris

If you use special characters, enclose the entire password with single quotation marks. For example:

```
'mypwd@$%'
```

Windows

If you use special characters, enclose the entire password with double quotation marks. For example:

```
"mypwd@$%"
```

Windows domain IDs

If you install enterprise search on Windows, and you specify an existing user ID for the enterprise search administrator ID, ensure that the user ID is not a Windows domain ID that uses a roaming profile. There is a difference between a local user ID that belongs to a Windows domain and a domain ID:

Local ID

With a local user ID, the user's local profile is stored on the local computer. Any changes made to the local user profile are specific to the computer on which the changes are made. This is the only type of user ID that can be used as the enterprise search administrator ID.

Domain ID

With a domain ID, a copy of the user's local profile is stored on a shared server. This profile, which is known as a roaming user profile, is downloaded whenever the user logs on to any computer on the network. Changes made to the profile are synchronized with the server copy when the user logs off. To use this type of profile, the computer must belong to a Windows domain or Active Directory. The enterprise search administrator ID cannot be this type of user ID.

To obtain domain privileges for an ID, you can add the local user ID that you use for the enterprise search administrator ID to a domain. If you add the local user ID to a domain, however, you must ensure that the domain security rights do not override the local user rights that are required for enterprise search.


Windows user rights


If you install enterprise search on Windows, and you specify an existing user ID for the enterprise search administrator ID, any domain policies that are in effect will be honored and will not be changed by the enterprise search installation program. For example, the installation program will attempt to grant the user ID the authority to act as part of the operating system. If a domain policy denies that right, then the user ID will not have the required authority. Ensure that the domain policies do not deny the following user rights, which are required by the enterprise search administrator ID:

- Act as part of the operating system
- Lock pages in memory
- Create a token object
- Replace a process level token
- Impersonate a client after authentication
- Increase quotas (In Windows 2003, this option is labeled Adjust memory quotas for a process.)
- Log on as a service

If an attempt to install enterprise search fails because these user rights are not correctly assigned, you must remove the enterprise search software, assign the correct user rights to the user ID that you use to install enterprise search, and run the installation program again.

Related concepts

 Changing the enterprise search administrator password in a single server configuration

 Changing the enterprise search administrator password in a multiple server configuration

Related reference

“Installation information form”

Installation information form

You can print and use a form to record information about each server before you start the installation program.

OmniFind Enterprise Edition, Version 8.5



Multiple Server Installation Checklist: Installation information form

Use this form to record the information for each server. You must use the same enterprise search administrator ID and password for all servers. Also, the installation directory must be the same on all servers. The default port values are shown in parentheses.

Installation directory: _____

Enterprise Search Administrator ID: _____



Crawler server

- Host name: _____
- Port (6002): _____
- Data directory: _____
- Port for the enterprise search data store (1527): _____



Search server 1

- Host name: _____
- Port (6002): _____
- Data directory: _____
- HTTP Server port (80): _____



Search server 2

- Host name: _____
- Port (6002): _____
- Data directory: _____
- HTTP Server port (80): _____



Index server


- Host name: _____
- Port (6002): _____
- Data directory: _____

Figure 4. The installation information form

Related concepts

“Installation and data directories” on page 10

“Enterprise search administrator ID and password” on page 11

 TCP port numbers used for enterprise search

Related tasks

“Planning for enterprise search installation” on page 3

Installation modes: graphical, silent, and text

You can install enterprise search by using the graphical mode, text or console mode, or silent mode.

The enterprise search installation program installs most of the required software for you. You simply insert the appropriate CDs or specify the electronic image paths when you are prompted by the enterprise search installation program.

If you experience problems installing or using the product CDs, you can install required software in other ways. For example:

- You can copy the required software CD images to your hard disk. Then, insert the IBM OmniFind Enterprise Edition CD. You will be prompted to specify the location of the required software images.
- You can copy the enterprise search CD image to your hard disk. Start the enterprise search installation program from the directory on your hard disk and install the required software with the installation wizard.

Graphical installation

This is the typical installation option. Choose this option if you want to step through the installation manually and customize your installation.

Attention: If you run the installation with a Turkish locale setting, an exception error is returned and the installation fails. You can change the system locale to English or any other non-Turkish locale and run the installation in that language. After the installation completes, you can set the locale back to Turkish.

AIX, Linux, and Solaris

To start the graphical installation program, mount the IBM OmniFind Enterprise Edition CD or find the CD image on your system and run the executable file.

Requirement: If you are using a shell other than korn or bash, you must set up your environment before you start the installation program:

1. Create the user ID that will be used for the enterprise search administrator and apply the following profile changes to that user ID.
2. Add lines similar to the following sample profile to the profile that is run when the shell is started:

```
# OmniFind Start
if [ -f /home/esadmin/nodeinfo/esprofile ]; then
    echo "using esdata"
    . /home/esadmin/nodeinfo/esprofile
fi
# OmniFind End
```

In this sample profile, /home/esadmin/ is the enterprise search data directory (ES_NODE_ROOT). Ensure that the path that you specify matches the path that you specify for the data directory when you run the installation program.

Windows

To start the graphical installation program, insert the IBM OmniFind Enterprise Edition CD or find the CD image on your system.

Important: On Windows, when you install the prerequisite software CDs, you need to suppress the autorun feature so that the installation programs for those products do not start automatically. To suppress autorun, press and hold Shift when inserting the CD.

Silent installation

With this option, you can install enterprise search by editing a template response file and then allowing the installation program to install and configure your system. The response file templates are on the root directory of the IBM OmniFind Enterprise Edition CD image. You use the following parameters for silent mode installation:

```
install_command -options response_file -silent
```

For example:

```
./install-aix.bin -options aix_single_server.rsp -silent  
./install-linux.bin -options linux_crawler_server.rsp -silent  
./install-solaris.bin -options solaris_search_server.rsp -silent  
install-win32_non_gui.exe -options win_single_server.rsp -silent
```

Text or console mode installation

With this option, you can run the installation program in text mode from a console. The screens are rendered in text and prompt you for the same information as the graphical installation. To start the text mode installation program:

Insert or mount the IBM OmniFind Enterprise Edition CD and run the executable file. The following example shows how to start the installation program in text mode on Linux:

```
./install-linux.bin -console
```

You can also run the installation in an accessible mode from Windows. Run the following executable file with the accessibility parameter. This command starts the installation in text mode:

```
install-win32_non_gui.exe -accessibility
```

Changing the temporary directory

You can change the temporary directory for the installation program if the default temporary directory does not have enough space. Add the following parameter when you start the installation program from a command line:

```
-is:tempdir directory.
```

For example, on Windows, enter:

```
install-win32.exe -is:tempdir d:\temp
```

Response files for silent installation

A silent installation is an unattended installation that requires a response file.

You can run a silent installation for enterprise search. For example, you might choose a silent installation when the installation cannot be attended or when you want a default installation that you can reuse for multiple installations of enterprise search.

Each response file contains the options that are required for the type of installation you want to do, including options to install some required software. To ensure a successful installation, read the comments that are provided for each option in the template response files to understand what values to specify for each option. All values that you enter in a response file must be enclosed in double quotation marks " ".

The template response files are available in the root directory of the IBM OmniFind Enterprise Edition CD.

Upgrading to Version 8.5: The template response files contain many new and changed options. Do not reuse any preexisting response files that you created from previous versions of this product to install OmniFind Enterprise Edition, Version 8.5. See the `upgrade.rsp` file for information about using the silent installation method to upgrade your enterprise search system.

Important: If you use the enterprise search installation program to install WebSphere Application Server and the Windows user rights are not available, the WebSphere installation will fail. The enterprise search installation program provides an option to set up WebSphere as a service. If you choose not to run WebSphere Application Server as a service, WebSphere Application Server installation will complete successfully. However, if you do not set the Windows user rights, you might have problems with password encryption and setting the password might not be successful. For more information about setting user rights for the WebSphere Application Server user ID, see “Cannot install WebSphere Application Server on Windows” on page 56.

Template response files for single server installation

For a single server installation, modify the appropriate template response file:

AIX `aix_single_server.rsp`

Linux `linux_single_server.rsp`

Solaris
 `solaris_single_server.rsp`

Windows
 `win_single_server.rsp`

Template response files for two server installation

For a two server installation, modify the appropriate template response file for the server with the crawler, index, and search components:

AIX `aix_two_server_full.rsp`

Linux `linux_two_server_full.rsp`

Solaris
 `solaris_two_server_full.rsp`

Windows
 `win_two_server_full.rsp`

For the server with the second search component, modify one of these files:

AIX aix_search_server.rsp

Linux linux_search_server.rsp

Solaris

 solaris_search_server.rsp

Windows

 win_search_server.rsp

Template response files for four server installation

For a four server installation, modify the appropriate template response files for the index, crawler, and search components. You can reuse the response file for the search component because you install a search component on two different servers.

AIX aix_index_server.rsp

 aix_crawler_server.rsp

 aix_search_server.rsp

Linux linux_index_server.rsp

 linux_crawler_server.rsp

 linux_search_server.rsp

Solaris

 solaris_index_server.rsp

 solaris_crawler_server.rsp

 solaris_search_server.rsp

Windows

 win_index_server.rsp

 win_crawler_server.rsp

 win_search_server.rsp

Upgrading to OmniFind Enterprise Edition, Version 8.5

You can upgrade only from OmniFind Enterprise Edition, Version 8.4 to Version 8.5.

If you are currently using OmniFind Enterprise Edition, Version 8.3, you must first upgrade your enterprise search system to Version 8.4. You can then upgrade to OmniFind Enterprise Edition, Version 8.5.




You cannot upgrade to a different system configuration:

- If you currently run enterprise search on a single server, you must install the new software on a single server.
- If you currently run enterprise search in a two server configuration, you must install the new software on two servers.
- If you currently run enterprise search in a four server configuration, you must install the new software on four servers.

There are different paths that you can take to upgrade to OmniFind Enterprise Edition, Version 8.5. Which path you choose depends on the versions of the prerequisite and optional software that are installed on your system and whether you use WebSphere Application Server for purposes other than enterprise search.

Important: Documents that were crawled but not yet parsed are not migrated when you install version 8.5. Use the enterprise search administration console to monitor the parser and ensure that there are no documents waiting to be parsed before you run the OmniFind Enterprise Edition, Version 8.5 installation program.

Related concepts

-  [Backing up and restoring an enterprise search system](#)
-  [Enterprise search system administration](#)
-  [Logging in to the administration console](#)

Related tasks

[“Post-installation tasks” on page 39](#)

Removing older versions of WebSphere Application Server

If you use WebSphere Application Server only for enterprise search, you can remove older versions of this software after you upgrade to OmniFind Enterprise Edition, Version 8.5.

If you use an older version of WebSphere Application Server that is supported by OmniFind Enterprise Edition, Version 8.5 (such as Version 5.1.1, 5.1.1.3, or 6.0.2), and you use WebSphere Application Server only for enterprise search, you might want to upgrade to WebSphere Application Server, Version 6.1 before you run the installation program for enterprise search.

You can continue to use these older versions of WebSphere Application Server with OmniFind Enterprise Edition, Version 8.5. To take advantage of performance and

other enhancements, however, you might want to upgrade WebSphere Application Server when you upgrade your enterprise search system.

To upgrade your enterprise search system:

1. Install WebSphere Application Server Version 6.1. Be sure to install the base software and the supplemental software (IBM HTTP Server and Web Server Plug-ins). The required WebSphere Application Server software is included in the OmniFind Enterprise Edition, Version 8.5 package.

For information about how to upgrade to Version 6.1, see the WebSphere Application Server information center.

2. Run the OmniFind Enterprise Edition, Version 8.5 installation program to upgrade your enterprise search system.

Restriction: You must use the graphical or silent method to install the enterprise search software so that you can specify the paths for WebSphere Application Server, Version 6.1. You cannot use the console mode to upgrade your system.

3. After the enterprise search software is installed, you can remove the older WebSphere Application Server software from your system.

Related concepts

“Enterprise search installation” on page 1

Related tasks

“Planning for enterprise search installation” on page 3

Using WebSphere Application Server for non-enterprise search applications

If you use WebSphere Application Server for applications other than for enterprise search, you might want to upgrade to WebSphere Application Server, Version 6.1 and migrate your applications to this new version.

You can continue to use WebSphere Application Server, Version 5.1.1, 5.1.1.3, and 6.0.2 with OmniFind Enterprise Edition, Version 8.5. However, to take advantage of performance and other enhancements, you might want to upgrade to WebSphere Application Server, Version 6.1.

To upgrade your enterprise search system:

1. Upgrade to WebSphere Application Server, Version 6.1. Be sure to install the base software and the supplemental software (IBM HTTP Server and Web Server Plug-ins). The required WebSphere Application Server software is included in the OmniFind Enterprise Edition, Version 8.5 package.

For information about how to upgrade to Version 6.1, see the WebSphere Application Server information center.

2. Migrate all of your other applications from the previous version of WebSphere Application Server to Version 6.1.
3. Run the OmniFind Enterprise Edition, Version 8.5 installation program to upgrade your enterprise search system.

Restriction: You must use the graphical or silent method to install the enterprise search software so that you can specify the paths for WebSphere Application Server, Version 6.1. You cannot use the console mode to upgrade your system.

Important: If you use WebSphere Application Server, Version 6.0.2 on Solaris, the installation program detects only that the base WebSphere Application Server software is installed. The suggested installation paths for IBM HTTP Server and the Web Server Plug-ins might not be correct. To avoid seeing a prompt to install WebSphere Application Server, verify that these paths are correct when you run the installation program.

4. After the enterprise search software is installed, you can remove the older WebSphere Application Server software from your system. If you installed WebSphere Application Server Network Deployment (Deployment Manager), you can remove it from your system, too.

Related concepts

“Enterprise search installation” on page 1

Related tasks


“Planning for enterprise search installation” on page 3


Updating collections after you upgrade enterprise search

To fully leverage improvements in the product, you should re-crawl, re-parse and re-index all documents in your collections after you upgrade to OmniFind Enterprise Edition, Version 8.5.

When documents processed with an earlier version of OmniFind Enterprise Edition are indexed and searched, the search results might be affected. This is especially important for collections that use the n-gram tokenization mechanism, but also true for collections that use standard tokenization.

Related concepts

 Enterprise search system administration

 Logging in to the administration console

Related reference

“Crawler setup requirements” on page 39

Installing enterprise search

Before you install OmniFind Enterprise Edition, ensure that your operating system is compatible and has the correct updates, determine how many servers you want to install, and which installation method to use.

Fill out the installation information form to ensure that you have required information available before you start the installation program.

Related concepts

“Upgrading to OmniFind Enterprise Edition, Version 8.5” on page 19

Related tasks

“Removing enterprise search” on page 51

Related reference

“Installation information form” on page 13

“Troubleshooting installation problems” on page 53

“Crawler setup requirements” on page 39

Single server installation overview

For a single server installation, install all prerequisite software and OmniFind Enterprise Edition on one server.

New installations

The OmniFind Enterprise Edition installation program installs the information center and IBM WebSphere Application Server, Version 6.1 unless you want to install these products manually or you installed these products already. A second instance of WebSphere Application Server, Version 6.1 will not be installed.

For WebSphere Application Server, the installation program installs the Version 6.1 base product, IBM HTTP Server, and the WebSphere Application Server plug-in component.

If you prefer to manually install WebSphere Application Server, you must install WebSphere Application Server base, IBM HTTP Server, and the WebSphere Application Server plug-in component. For information about manual installation, see the WebSphere Application Server information center.

Upgrade installations

You must upgrade from a single server configuration of OmniFind Enterprise Edition, Version 8.4.

To take advantage of performance and other improvements, you might want to upgrade to WebSphere Application Server, Version 6.1 before you install OmniFind Enterprise Edition, Version 8.5.

Related tasks

“Post-installation tasks” on page 39

Related reference

“Installation information form” on page 13

“Troubleshooting installation problems” on page 53

“Crawler setup requirements” on page 39

Installing enterprise search on a single server

Use the installation launchpad to install OmniFind Enterprise Edition and other required software on one server.

Procedure

To install an enterprise search system on a single server:

1. From the product CD or electronic distribution image, run the appropriate setup file for your operating system to start the installation wizard:

Option	Description
AIX	Log in as the root user and enter <code>./install-aix.bin</code>
Linux	Log in as the root user and enter <code>./install-linux.bin</code>
Solaris	Log in as the root user and enter <code>./install-solaris.bin</code>
Windows	Log in as a user with administrator authority. Double-click the <code>install-win32.exe</code> file or enter <code>install-win32.exe</code>

2. On the installation launchpad, click **Install Products**.
3. Follow the instructions in the installation wizard. Use the following guidelines as you make selections and specify options for your system.
 - When you specify the enterprise search administrator user ID and password, select the option to create a new ID and password if the user ID does not exist and you want the installation wizard to create it. If the user ID already exists in the operating system, select the option to use an existing user. The examples in this document use `esadmin` for the enterprise search administrator user ID and password.
 - On AIX, Linux, or Solaris, if you do not accept the default paths for the installation and data directories, ensure that the paths that you specify do not contain spaces in the path names.
 - Click **Single server installation** when you see the prompt for the type of system to install.
 - When you select the memory model, specify a small, medium, or large memory configuration size for the installation. Select the largest size that you will need.
 - If WebSphere Information Integrator Content Edition is not already installed, you can select the option to install WebSphere Information Integrator Content Edition, Version 8.4. If you install this software, you can add data sources that are available through the Content Edition crawler to your searchable index.
 - If WebSphere Application Server is not already installed, select the option to allow the installation program to install Version 6.1. Typically, you can accept the default values for installing the base WebSphere Application Server software, the IBM HTTP Server, and the Web Server Plug-ins.

If a compatible version of WebSphere Application Server is installed, select the option to use the existing installation. Verify that the displayed installation paths, ports, and IBM HTTP server name are correct for your installation of WebSphere Application Server.

Important: If you use WebSphere Application Server, Version 6.0.2 on Solaris, the installation program detects only that the base WebSphere Application Server software is installed. The suggested installation paths for IBM HTTP Server and the Web Server Plug-ins might not be correct. To avoid seeing a prompt to install WebSphere Application Server, verify that these paths are correct before you continue with the installation program. For example:

```
/opt/IBM/WebSphere/Plugins/  
/opt/IBMIHS/
```

- When two pages that show the default WebSphere Application Server port assignments are displayed, ensure that the ports do not conflict with ports that are already assigned to other applications on this computer.
 - On Windows, you can specify whether you want to run WebSphere Application Server and the IBM HTTP Server as services. The user ID and password that you specify for running the service must have Windows administrator privileges to act as part of the operating system and to log on as a service.
4. On the summary page, review the options that you selected and click **Install** to start installing the software.
 5. If you selected the option to install WebSphere Application Server, insert the CD or specify the path for the electronic distribution image. After the base WebSphere Application Server software is installed, the wizard prompts you to insert the CD or specify the path for the supplemental software (the IBM HTTP Server and the WebSphere Application Server Plug-in).
On Windows, you must suppress the autorun feature if you insert the CDs. To suppress autorun, press and hold the Shift key while you insert the CDs.
 6. If you selected the option to install WebSphere Information Integrator Content Edition, insert the CD or specify the path for the electronic distribution image.
On Windows, you must suppress the autorun feature if you insert the CD. To suppress autorun, press and hold the Shift key while you insert the CD.
 7. As the enterprise search software is installed, you see messages about applications being deployed in WebSphere Application Server. After all of the software is installed, click the results pages to confirm that the installation of various components was successful. You can also select an option to run the First Steps program automatically when the computer is restarted.
 8. On Windows, restart the computer.
 9. Optional: To verify the installation, start the First Steps program. If you selected the option to start the First Steps program when the installation wizard finished, the First Steps program is started automatically when you restart the computer.

Related concepts

“Installation and data directories” on page 10

“Enterprise search administrator ID and password” on page 11

“Integration with WebSphere Information Integrator Content Edition” on page 9

“Memory models for enterprise search” on page 5

Related tasks

“Post-installation tasks” on page 39

“Starting the First Steps program” on page 48

“Starting an enterprise search system” on page 47

Related reference

“Installation information form” on page 13

“Crawler setup requirements” on page 39

Two server installation overview

A two server installation is similar to a single server installation except that you install an additional search component on a second server for failover support.

Use a two server configuration for increased scalability, especially if you have many users who search a small amount of data or static data.

New installations

The OmniFind Enterprise Edition installation program installs the information center and IBM WebSphere Application Server, Version 6.1 unless you want to install these products manually or you installed these products already. A second instance of WebSphere Application Server, Version 6.1 will not be installed.

For WebSphere Application Server, the installation program installs the Version 6.1 base product, IBM HTTP Server, and the WebSphere Application Server plug-in component.

If you prefer to manually install WebSphere Application Server, you must install WebSphere Application Server base, IBM HTTP Server, and the WebSphere Application Server plug-in component. For information about manual installation, see the WebSphere Application Server information center.

Upgrade installations

You must upgrade from a two server configuration of OmniFind Enterprise Edition, Version 8.4.

To take advantage of performance and other improvements, you might want to upgrade to WebSphere Application Server, Version 6.1 before you install OmniFind Enterprise Edition, Version 8.5.

Related tasks

“Post-installation tasks” on page 39

Related reference

“Installation information form” on page 13

“Troubleshooting installation problems” on page 53

“Crawler setup requirements” on page 39

Installing the crawler, index, and search components for a two server installation

Use the installation launchpad to install the crawler, index, and search server on a single computer. Then install a redundant search server on a separate computer.

Before you begin

If you did not use the provided installation information form, be prepared to record the following information when you run the installation program. You must have this information available when you install the second search server:

- The enterprise search administrator ID and password. The administrator ID and password must be the same on both enterprise search servers.
- The full path for the installation directory and the data directory. The installation directory must be the same on both enterprise search servers.
- The port for the enterprise search data store.
- The small, medium, or large memory model that you want to install for this system.
- The host name and port for the search server.
- The port for the HTTP server.

Procedure

To install an enterprise search system on the first server in a two server configuration:

1. From the product CD or electronic distribution image, run the appropriate setup file for your operating system to start the installation wizard:

Option	Description
AIX	Log in as the root user and enter <code>./install-aix.bin</code>
Linux	Log in as the root user and enter <code>./install-linux.bin</code>
Solaris	Log in as the root user and enter <code>./install-solaris.bin</code>
Windows	Log in as a user with administrator authority. Double-click the <code>install-win32.exe</code> file or enter <code>install-win32.exe</code>

2. On the installation launchpad, click **Install Products**.
3. Follow the instructions in the installation wizard. Use the following guidelines as you make selections and specify options for your system.
 - When you specify the enterprise search administrator user ID and password, select the option to create a new ID and password if the user ID does not exist and you want the installation wizard to create it. If the user ID already exists in the operating system, select the option to use an existing user. The examples in this document use `esadmin` for the enterprise search administrator user ID and password.
 - On AIX, Linux, or Solaris, if you do not accept the default paths for the installation and data directories, ensure that the paths that you specify do not contain spaces in the path names.
 - Click **Two server installation** when you see the prompt for the type of system to install, and then click **Two server installation - crawler, index, and search server**.
 - When you select the memory model, specify a small, medium, or large memory configuration size for the installation. Select the largest size that you will need.
 - If WebSphere Information Integrator Content Edition is not already installed, you can select the option to install WebSphere Information Integrator

Content Edition, Version 8.4. If you install this software, you can add data sources that are available through the Content Edition crawler to your searchable index.

- If WebSphere Application Server is not already installed, select the option to allow the installation program to install Version 6.1. Typically, you can accept the default values for installing the base WebSphere Application Server software, the IBM HTTP Server, and the Web Server Plug-ins.

If a compatible version of WebSphere Application Server is installed, select the option to use the existing installation. Verify that the displayed installation paths, ports, and IBM HTTP server name are correct for your installation of WebSphere Application Server.

Important: If you use WebSphere Application Server, Version 6.0.2 on Solaris, the installation program detects only that the base WebSphere Application Server software is installed. The suggested installation paths for IBM HTTP Server and the Web Server Plug-ins might not be correct. To avoid seeing a prompt to install WebSphere Application Server, verify that these paths are correct before you continue with the installation program. For example:

```
/opt/IBM/WebSphere/Plugins/  
/opt/IBMIHS/
```

- When two pages that show the default WebSphere Application Server port assignments are displayed, ensure that the ports do not conflict with ports that are already assigned to other applications on this computer.
 - On Windows, you can specify whether you want to run WebSphere Application Server and the IBM HTTP Server as services. The user ID and password that you specify for running the service must have Windows administrator privileges to act as part of the operating system and to log on as a service.
4. On the summary page, review the options that you selected and click **Install** to start installing the software.
 5. If you selected the option to install WebSphere Application Server, insert the CD or specify the path for the electronic distribution image. After the base WebSphere Application Server software is installed, the wizard prompts you to insert the CD or specify the path for the supplemental software (the IBM HTTP Server and the WebSphere Application Server Plug-in).
On Windows, you must suppress the autorun feature if you insert the CDs. To suppress autorun, press and hold the Shift key while you insert the CDs.
 6. If you selected the option to install WebSphere Information Integrator Content Edition, insert the CD or specify the path for the electronic distribution image.
On Windows, you must suppress the autorun feature if you insert the CD. To suppress autorun, press and hold the Shift key while you insert the CD.
 7. As the enterprise search software is installed, you see messages about applications being deployed in WebSphere Application Server. After all of the software is installed, click the results pages to confirm that the installation was successful.
 8. Do not select the option to run the First Steps program automatically when the computer is restarted. You can run the First Steps program to verify the installation after you install the second search server.
 9. On Windows, restart the computer.

Related concepts

“Installation and data directories” on page 10

“Enterprise search administrator ID and password” on page 11

“Integration with WebSphere Information Integrator Content Edition” on page 9

“Memory models for enterprise search” on page 5

Related tasks

“Post-installation tasks” on page 39

“Starting the First Steps program” on page 48

“Starting an enterprise search system” on page 47

Related reference

“Installation information form” on page 13

Installing the second search server for a two server installation

After you install all components on the first server, install a redundant search server.

About this task

Use the information that you recorded on the installation information form or when you installed the first enterprise search server when you install a second search server.

Procedure

To install a second search server in a two server configuration:

1. From the product CD or electronic distribution image, run the appropriate setup file for your operating system to start the installation wizard:

Option	Description
AIX	Log in as the root user and enter <code>./install-aix.bin</code>
Linux	Log in as the root user and enter <code>./install-linux.bin</code>
Solaris	Log in as the root user and enter <code>./install-solaris.bin</code>
Windows	Log in as a user with administrator authority. Double-click the <code>install-win32.exe</code> file or enter <code>install-win32.exe</code>

2. On the installation launchpad, click **Install Products**.
3. Follow the instructions in the installation wizard. Use the following guidelines as you make selections and specify options for your system.
 - For the enterprise search administrator user ID and password, specify the values that you specified for the first enterprise search server. The administrator ID and password must be the same on both servers.
 - For the installation and data directories, specify the values that you specified for the first enterprise search server. The installation directories must be the same on both servers.
 - Click **Two server installation** when you see the prompt for the type of system to install, and then click **Two server installation - search server**.

- For the memory model, specify the same value that you specified for the first enterprise search server. The memory configuration must be the same on both servers.
- If WebSphere Application Server is not already installed, select the option to allow the installation program to install Version 6.1. Typically, you can accept the default values for installing the base WebSphere Application Server software, the IBM HTTP Server, and the Web Server Plug-ins.

If a compatible version of WebSphere Application Server is installed, select the option to use the existing installation. Verify that the displayed installation paths, ports, and IBM HTTP server name are correct for your installation of WebSphere Application Server.

Important: If you use WebSphere Application Server, Version 6.0.2 on Solaris, the installation program detects only that the base WebSphere Application Server software is installed. The suggested installation paths for IBM HTTP Server and the Web Server Plug-ins might not be correct. To avoid seeing a prompt to install WebSphere Application Server, verify that these paths are correct before you continue with the installation program. For example:

```
/opt/IBM/WebSphere/Plugins/  
/opt/IBMIHS/
```

- When two pages that show the default WebSphere Application Server port assignments are displayed, ensure that the ports do not conflict with ports that are already assigned to other applications on this computer.
 - On Windows, you can specify whether you want to run WebSphere Application Server and the IBM HTTP Server as services. The user ID and password that you specify for running the service must have Windows administrator privileges to act as part of the operating system and to log on as a service.
4. On the summary page, review the options that you selected and click **Install** to start installing the software.
 5. If you selected the option to install WebSphere Application Server, insert the CD or specify the path for the electronic distribution image. After the base WebSphere Application Server software is installed, the wizard prompts you to insert the CD or specify the path for the supplemental software (the IBM HTTP Server and the WebSphere Application Server Plug-in).
On Windows, you must suppress the autorun feature if you insert the CDs. To suppress autorun, press and hold the Shift key while you insert the CDs.
 6. As the enterprise search software is installed, you see messages about applications being deployed in WebSphere Application Server. After all of the software is installed, click the results pages to confirm that the installation of various components was successful. You can also select an option to run the First Steps program automatically when the computer is restarted.
 7. On Windows, restart the computer.
 8. Optional: To verify the installation, start the First Steps program.

Related concepts

“Installation and data directories” on page 10

“Enterprise search administrator ID and password” on page 11

“Integration with WebSphere Information Integrator Content Edition” on page 9

“Memory models for enterprise search” on page 5

Related tasks

“Post-installation tasks” on page 39

“Starting the First Steps program” on page 48

“Starting an enterprise search system” on page 47

Related reference

“Installation information form” on page 13

Four server installation overview

For maximum performance on high volume systems, you can install enterprise search on four distributed servers. In a four server configuration, you install the crawler component on one server, the index component on one server, and the search component on two servers.

New installations

The OmniFind Enterprise Edition installation program installs the information center and IBM WebSphere Application Server, Version 6.1 unless you want to install these products manually or you installed these products already. A second instance of WebSphere Application Server, Version 6.1 will not be installed.

For WebSphere Application Server, the installation program installs the Version 6.1 base product, IBM HTTP Server, and the WebSphere Application Server plug-in component.

If you prefer to manually install WebSphere Application Server, you must install WebSphere Application Server base, IBM HTTP Server, and the WebSphere Application Server plug-in component. For information about manual installation, see the WebSphere Application Server information center.

Upgrade installations

You must upgrade from a four server configuration of OmniFind Enterprise Edition, Version 8.4.

To take advantage of performance and other improvements, you might want to upgrade to WebSphere Application Server, Version 6.1 before you install OmniFind Enterprise Edition, Version 8.5.

Four server architecture

Each server in the enterprise search system is referred to by its component name. For example, if the crawler component is installed on a server, that server is called the crawler server.

The following figure shows the four servers and their components. The Content Edition connectors are installed only if you choose to install WebSphere Information Integrator Content Edition when you run the installation program on the crawler server.

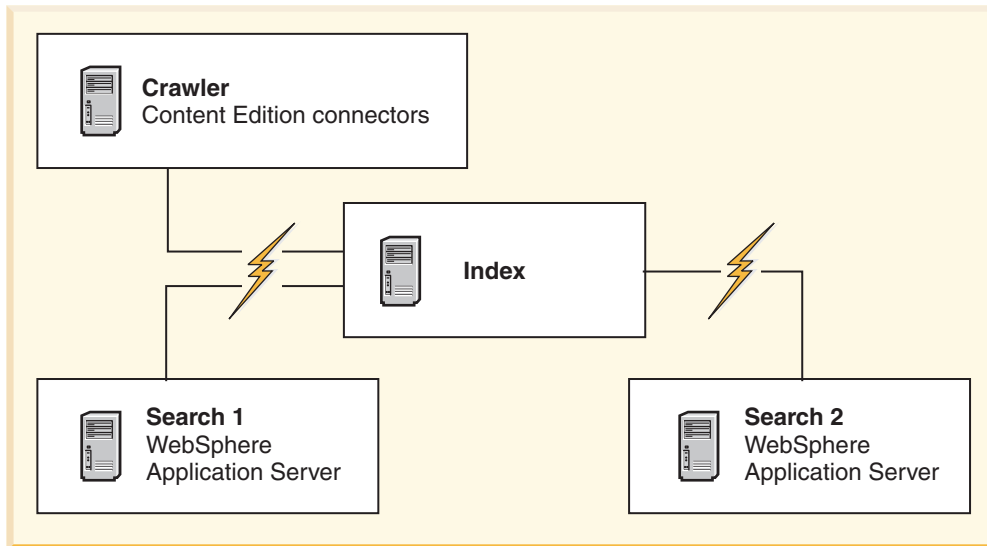


Figure 5. Four enterprise search servers and their software components

Installation order

The index server acts as the controlling server for the four server configuration. Install the index server last because you need the host names and ports for the other servers when you install the index component. Also, you cannot start the system services until all of the servers are installed.

Install and configure the enterprise search servers and the appropriate software in the following order:

1. Crawler server

The installation program installs the following software:

- Crawler component of enterprise search
- Optional: WebSphere Information Integrator Content Edition connectors
- Setup scripts for the following crawlers:
 - Content Edition
 - DB2
 - Domino Document Manager
 - Notes
 - QuickPlace
 - Seed list
 - Web Content Management
 - WebSphere Portal

To crawl these types of sources, you must run the appropriate setup scripts after the enterprise search software is installed.

2. Search server 1

The installation program installs the following software:

- Search component of enterprise search
- WebSphere Application Server, Version 6.1 (new installations only)
- IBM HTTP server (new installations only)
- WebSphere Application Server plug-in (new installations only)

- Information center

3. Search server 2

The installation program installs the following software:

- Search component of enterprise search
- WebSphere Application Server, Version 6.1 (new installations only)
- IBM HTTP server (new installations only)
- WebSphere Application Server plug-in (new installations only)
- Information center

4. Index server

The installation program installs the Index component of enterprise search.

If all or some of the required software is already installed on your system, you must still ensure that the required software is installed on the appropriate enterprise search servers. Connecting to remote instances of WebSphere Application Server is not supported.

You specify a user name and password for the enterprise search administrator for each component that you install. You must specify the same user name and password on each server.

To assist with installation you should record the information that you need to specify for each server. Use the installation information form to record your information.

Related tasks

“Post-installation tasks” on page 39

Related reference

“Installation information form” on page 13

“Troubleshooting installation problems” on page 53

“Crawler setup requirements” on page 39

Installing the crawler server for a four server installation

You install the crawler server first when you install enterprise search in a four server configuration.

Before you begin

If you did not use the provided installation information form, be prepared to record the following information when you run the installation program. You must have this information available when you install the search servers and index server:

- The enterprise search administrator ID and password. The administrator ID and password must be the same on all enterprise search servers.
- The full path for the installation directory and the data directory. The installation directory must be the same on all enterprise search servers.
- The port for the enterprise search data store.
- The host name and port for the crawler server.
- The small, medium, or large memory model that you want to install for this system.

Procedure

To install the crawler server for a four server configuration:

1. From the product CD or electronic distribution image, run the appropriate setup file for your operating system to start the installation wizard:

Option	Description
AIX	Log in as the root user and enter <code>./install-aix.bin</code>
Linux	Log in as the root user and enter <code>./install-linux.bin</code>
Solaris	Log in as the root user and enter <code>./install-solaris.bin</code>
Windows	Log in as a user with administrator authority. Double-click the <code>install-win32.exe</code> file or enter <code>install-win32.exe</code>

2. On the installation launchpad, click **Install Products**.
3. Follow the instructions in the installation wizard. Use the following guidelines as you make selections and specify options for your system.
 - When you specify the enterprise search administrator user ID and password, select the option to create a new ID and password if the user ID does not exist and you want the installation wizard to create it. If the user ID already exists in the operating system, select the option to use an existing user. The examples in this document use `esadmin` for the enterprise search administrator user ID and password.
 - On AIX, Linux, or Solaris, if you do not accept the default paths for the installation and data directories, ensure that the paths that you specify do not contain spaces in the path names.
 - Click **Four server installation** when you see the prompt for the type of system to install, and then click **Crawler server**.
 - When you select the memory model, specify a small, medium, or large memory configuration size for the installation. Select the largest size that you will need.
 - If WebSphere Information Integrator Content Edition is not already installed, you can select the option to install WebSphere Information Integrator Content Edition, Version 8.4. If you install this software, you can add data sources that are available through the Content Edition crawler to your searchable index.
4. On the summary page, review the options that you selected and click **Install** to start installing the software.
5. If you selected the option to install WebSphere Information Integrator Content Edition, insert the CD or specify the path for the electronic distribution image. On Windows, you must suppress the autorun feature if you insert the CD. To suppress autorun, press and hold the Shift key while you insert the CD.
6. After the enterprise search software is installed, click the results pages to confirm that the installation was successful.
7. On Windows, restart the computer.

Related concepts

“Installation and data directories” on page 10

“Enterprise search administrator ID and password” on page 11

“Integration with WebSphere Information Integrator Content Edition” on page 9

“Memory models for enterprise search” on page 5

Related tasks

“Post-installation tasks” on page 39

“Starting the First Steps program” on page 48

“Starting an enterprise search system” on page 47

Related reference

“Installation information form” on page 13

Installing the search servers for a four server installation

You install the search servers for enterprise search on the same computers where you install WebSphere Application Server.

Before you begin

If you did not use the provided installation information form, be prepared to record the following information when you run the installation program. You must have this information available when you install the index server:

- The enterprise search administrator ID and password. The administrator ID and password must be the same on both enterprise search servers.
- The full path for the installation directory and the data directory. The installation directory must be the same on both enterprise search servers.
- The small, medium, or large memory model that you want to install for this system.
- The host name and port for the search server.
- The port for the HTTP server.

About this task

The prompts that are displayed during the installation vary depending on how your system is currently configured.

Procedure

To install two search servers for a four server configuration, do the following steps on two computers:

1. From the product CD or electronic distribution image, run the appropriate setup file for your operating system to start the installation wizard:

Option	Description
AIX	Log in as the root user and enter <code>./install-aix.bin</code>
Linux	Log in as the root user and enter <code>./install-linux.bin</code>
Solaris	Log in as the root user and enter <code>./install-solaris.bin</code>
Windows	Log in as a user with administrator authority. Double-click the <code>install-win32.exe</code> file or enter <code>install-win32.exe</code>

2. On the installation launchpad, click **Install Products**.

3. Follow the instructions in the installation wizard. Use the following guidelines as you make selections and specify options for your system.
 - For the enterprise search administrator user ID and password, specify the values that you specified for the crawler server. The administrator ID and password must be the same on all enterprise search servers.
 - For the installation and data directories, specify the values that you specified for the crawler server. The installation directories must be the same on all enterprise search servers.
 - Click **Four server installation** when you see the prompt for the type of system to install, and then click **Search server**.
 - For the memory model, specify the same value that you specified for the crawler server. The memory configuration must be the same on all enterprise search servers.
 - If WebSphere Application Server is not already installed, select the option to allow the installation program to install Version 6.1. Typically, you can accept the default values for installing the base WebSphere Application Server software, the IBM HTTP Server, and the Web Server Plug-ins.

If a compatible version of WebSphere Application Server is installed, select the option to use the existing installation. Verify that the displayed installation paths, ports, and IBM HTTP server name are correct for your installation of WebSphere Application Server.

Important: If you use WebSphere Application Server, Version 6.0.2 on Solaris, the installation program detects only that the base WebSphere Application Server software is installed. The suggested installation paths for IBM HTTP Server and the Web Server Plug-ins might not be correct. To avoid seeing a prompt to install WebSphere Application Server, verify that these paths are correct before you continue with the installation program. For example:

```
/opt/IBM/WebSphere/Plugins/  
/opt/IBMIHS/
```

- When two pages that show the default WebSphere Application Server port assignments are displayed, ensure that the ports do not conflict with ports that are already assigned to other applications on this computer.
 - On Windows, you can specify whether you want to run WebSphere Application Server and the IBM HTTP Server as services. The user ID and password that you specify for running the service must have Windows administrator privileges to act as part of the operating system and to log on as a service.
4. On the summary page, review the options that you selected and click **Install** to start installing the software.
 5. If you selected the option to install WebSphere Application Server, insert the CD or specify the path for the electronic distribution image. After the base WebSphere Application Server software is installed, the wizard prompts you to insert the CD or specify the path for the supplemental software (the IBM HTTP Server and the WebSphere Application Server Plug-in).

On Windows, you must suppress the autorun feature if you insert the CDs. To suppress autorun, press and hold the Shift key while you insert the CDs.
 6. As the enterprise search software is installed, you see messages about applications being deployed in WebSphere Application Server. After all of the software is installed, click the results pages to confirm that the installation was successful.
 7. On Windows, restart the computer.

Related concepts

“Installation and data directories” on page 10

“Enterprise search administrator ID and password” on page 11

“Integration with WebSphere Information Integrator Content Edition” on page 9

“Memory models for enterprise search” on page 5

Related tasks

“Post-installation tasks” on page 39

“Starting the First Steps program” on page 48

“Starting an enterprise search system” on page 47

Related reference

“Installation information form” on page 13

Installing the index server for a four server installation

When you install the index server, you must provide information about the crawler and search servers and their prerequisite software.

About this task

Use the information that you recorded on the installation information form or when you installed the crawler server and search servers when you install the index component.

Procedure

To install the index server for a four server configuration:

1. From the product CD or electronic distribution image, run the appropriate setup file for your operating system to start the installation wizard:

Option	Description
AIX	Log in as the root user and enter <code>./install-aix.bin</code>
Linux	Log in as the root user and enter <code>./install-linux.bin</code>
Solaris	Log in as the root user and enter <code>./install-solaris.bin</code>
Windows	Log in as a user with administrator authority. Double-click the <code>install-win32.exe</code> file or enter <code>install-win32.exe</code>

2. On the installation launchpad, click **Install Products**.
3. Follow the instructions in the installation wizard. Use the following guidelines as you make selections and specify options for your system.
 - For the enterprise search administrator user ID and password, specify the values that you specified for the crawler server. The administrator ID and password must be the same on all enterprise search servers.
 - For the installation and data directories, specify the values that you specified for the crawler server. The installation directories must be the same on all enterprise search servers.
 - Click **Four server installation** when you see the prompt for the type of system to install, and then click **Index server**.

- For the memory model, specify the same value that you specified for the crawler server. The memory configuration must be the same on all enterprise search servers.
4. Provide the following information in the appropriate fields. During the installation, you might see other prompts depending on your system configuration.
 - Host name and port for the crawler server
 - Data directory for the crawler server
 - Port for the enterprise search data store on the crawler server
 - Host name and port for each search server
 - Data directory for each search server
 - HTTP server port for each search server
 - Host name and port for the index server
 5. After the enterprise search software is installed, click the results pages to confirm that the installation was successful. You can also select an option to run the First Steps program automatically when the computer is restarted.
 6. On Windows, restart the computer.
 7. Optional: To verify the installation, start the First Steps program. If you selected the option to start the First Steps program when the installation wizard finished, the First Steps program is started automatically when you restart the computer.

Related concepts

“Installation and data directories” on page 10

“Enterprise search administrator ID and password” on page 11

“Integration with WebSphere Information Integrator Content Edition” on page 9

“Memory models for enterprise search” on page 5

Related tasks

“Post-installation tasks” on page 39

“Starting the First Steps program” on page 48

“Starting an enterprise search system” on page 47

Related reference

“Installation information form” on page 13

Post-installation tasks

Before you create collections for enterprise search, you might need to install additional software or adjust system configuration settings to support the types of data that you plan to search.

For example:

- On Windows, you should ensure that the Windows service for enterprise search is correctly configured.
- Depending on the types of data sources that you plan to search, you might need to run setup scripts on the crawler server before you configure crawlers.
- If you install DB2 Enterprise Server Edition, which is included in the enterprise search product package, you must register the DB2 product license key.
- On AIX, Linux, and Solaris, you need to verify or set ulimit values.
- If you do not want to use the installed version of the information center, you can configure the system to use the information center on a public IBM Web site.
- On Windows, you can configure the system to use a Common Internet File System (CIFS) network drive to store collection data.

Configuring the Windows service for enterprise search

For enterprise search to function correctly, the Windows service needs to be set to start automatically.

Procedure

To verify that the Windows service for enterprise search is set to start automatically:

1. Click **Control Panel** → **Administrative Tools** → **Services**.
2. Verify that the startup type for the **IBM OmniFind Enterprise Edition** service is set to automatic.

Crawler setup requirements
















To crawl some types of data sources, or to ensure that security can be enforced when users search collections, you might need to run setup scripts on the crawler server.

You might also need to configure the servers to be crawled so that the enterprise search servers can communicate with the servers, access the data to be crawled, and obtain security data. The following table summarizes the post-installation tasks that are required by each crawler type. You must run the scripts, and configure the target servers, before you create the crawler.

Table 1. Crawler setup requirements

Crawler type	Setup requirements
Content Edition	<p>To access repositories in direct mode, you must configure connectors for the crawler server on the WebSphere Information Integrator Content Edition server.</p> <p>To access repositories in server mode, you must run the <code>escrvbr.sh</code> or <code>escrvbr.vbs</code> script on the crawler server.</p>
DB2	<p>You must run the <code>escrdb2.sh</code> or <code>escrdb2.vbs</code> script on the crawler server. You must also ensure that the DB2 Administration Client is installed on the crawler server.</p>
DB2 Content Manager	<p>You must run the <code>escrcm.sh</code> or <code>escrcm.vbs</code> script on the crawler server.</p>
Domino Document Manager, Notes, and QuickPlace	<p>To crawl Lotus® Domino® servers that use the Notes® remote procedure call (NRPC) protocol:</p> <ul style="list-style-type: none"> • On an AIX system, ensure that the I/O Completion Port module is installed and available on the crawler server. • Run the <code>escrnote.sh</code> or <code>escrnote.vbs</code> script on the crawler server. • Install a Domino server on the crawler server. The Domino server must be a member of the Domino domain to be crawled and, for maximum security, configure the Domino server as a Lotus Domino Trusted Server. <p>To crawl Lotus Domino servers that use the Domino Internet Inter-ORB Protocol (DIIOP):</p> <ul style="list-style-type: none"> • On an AIX system, ensure that the I/O Completion Port module is installed and available on the crawler server. • Configure the crawler server to use the DIIOP protocol.
Exchange Server	<p>To use Exchange Server key management and the Secure Sockets Layer (SSL) protocol, the keystore file must be on the crawler server (you specify the password to access the file when you configure the crawler).</p>
JDBC database	No setup requirements.
NNTP	No setup requirements.
UNIX file system	No setup requirements.
Web	<p>The Web crawler abides by the robots exclusion protocol. For information about this protocol, see http://www.robotstxt.org/wc/exclusion.html.</p> <p>Depending on your security requirements, ensure that the Web server can access sites that are protected by HTTP basic authentication or form-based authentication.</p>
Seed list, Web Content Management, and WebSphere Portal	<p>You must run a setup script to integrate enterprise search with a WebSphere Portal server. Different scripts are provided for different versions of WebSphere Portal.</p>
Windows file system	<p>To validate current user credentials when a user submits a search request, ensure that domain accounts are correctly configured. Requirements for setting up domain accounts for files that are crawled on the local computer are different from requirements for files that are crawled on a remote Windows server.</p>

Related concepts

-  Content Edition crawlers
-  DB2 crawlers
-  DB2 Content Manager crawlers
-  Domino Document Manager crawlers
-  Exchange Server crawlers
-  JDBC database crawlers
-  NNTP crawlers
-  Notes crawlers
-  QuickPlace crawlers
-  Seed list crawlers
-  UNIX file system crawlers
-  Web crawlers
-  Web Content Management crawlers
-  WebSphere Portal crawlers
-  Windows file system crawlers

Related reference

-  Crawler setup requirements to support security

Registering the DB2 Enterprise Server license key

You can manually install DB2 Enterprise Server Edition after you install enterprise search. Before you use DB2, you must register the DB2 product license key.

About this task

You register the DB2 product license key by running the **db2licm** command on each computer where you install DB2 Enterprise Server Edition. The license key entitles you to use DB2 with OmniFind Enterprise Edition.

For instructions on how to install DB2 Enterprise Server Edition, see the DB2 Enterprise Server Edition Information Center at <http://publib.boulder.ibm.com/infocenter/db2luw/v9/index.jsp>.

1. Log in as the enterprise search administrator or as a user with read and write privileges for the `ES_INSTALL_ROOT/license` directory.
2. Enter the following command to register the DB2 Enterprise Server Edition license key:

AIX, Linux, or Solaris

```
db2licm -a $ES_INSTALL_ROOT/license/db2ese_o.lic.txt
```

Windows

```
db2licm -a %ES_INSTALL_ROOT%/license/db2ese_o.lic.txt
```

Setting ulimit values for enterprise search

For proper operation, you must ensure that the correct ulimit values are set after you install OmniFind Enterprise Edition on AIX, Linux, or Solaris systems.

To allow OmniFind Enterprise Edition to use enough system resources, you must ensure that the following ulimit values are properly set:

Setting	Soft/Hard
NoFiles	32768/65536
Filesize	unlimited/unlimited
Data	unlimited/unlimited
Stack	unlimited/unlimited
Memory	unlimited/unlimited
Coredump	unlimited/unlimited

To verify the soft ulimit settings, run the command **ulimit -aS**.

To verify the hard ulimit settings, run the command **ulimit -aH**.

For AIX and Linux, the installation program attempts to set these ulimit settings for the enterprise search administrator ID. Verify the settings and if they are not correct, set them to the correct values. In a multiple server configuration, you must verify and correct the ulimit settings on all enterprise search servers.

In the following steps, *admin_user_ID* represents the enterprise search administrator ID.

1. To set or verify the ulimit values on AIX:

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

```
chuser nofiles=32768 nofiles_hard=65536 admin_user_ID
chuser fsize=-1 fsize_hard=-1 admin_user_ID
chuser data=-1 data_hard=-1 admin_user_ID
chuser stack=-1 stack_hard=-1 admin_user_ID
chuser rss=-1 rss_hard=-1 admin_user_ID
chuser core=-1 core_hard=-1 admin_user_ID
```

- c. Log in as the *admin_user_ID*.
- d. Restart the enterprise search system:

```
esadmin system stopall
esadmin system startall
```

2. To set or verify the ulimit values on Linux:

- a. Log in as the root user.
- b. Edit the `/etc/security/limits.conf` file and specify the following values:

```
admin_user_ID soft nofile 32768
admin_user_ID hard nofile 65536
admin_user_ID soft fsize unlimited
admin_user_ID hard fsize unlimited
admin_user_ID soft data unlimited
admin_user_ID hard data unlimited
admin_user_ID soft stack unlimited
admin_user_ID hard stack unlimited
admin_user_ID soft rss unlimited
```

```
admin_user_ID hard rss unlimited
admin_user_ID soft core unlimited
admin_user_ID soft core unlimited
```

- c. Log in as the *admin_user_ID*.
- d. Restart the enterprise search system:

```
esadmin system stopall
esadmin system startall
```

3. To set or verify the ulimit values on Solaris:
 - a. Log in as the root user.
 - b. Edit the */etc/profile* file and ensure that the file does not contain any commands that set ulimit values.
 - c. Add the following commands to the end of the */etc/profile* file

```
ulimit -nH 65536
ulimit -nS 32768
ulimit -s 2097152
ulimit -c 8388608
```

- d. To verify your changes, log in as the root user again. Run the following commands and verify the expected results:

```
# ulimit -aH
time(seconds) unlimited
file(blocks) unlimited
data(kbytes) unlimited
stack(kbytes) unlimited
coredump(blocks) unlimited
nofiles(descriptors) 65536
memory(kbytes) unlimited
```

```
# ulimit -aS
time(seconds) unlimited
file(blocks) unlimited
data(kbytes) unlimited
stack(kbytes) unlimited
coredump(blocks) unlimited
nofiles(descriptors) 32768
memory(kbytes) unlimited
```

- e. Log in as the *admin_user_ID*, edit the *ES_NODE_ROOT/nodeinfo/esprofile* file, and remove any commands that set ulimit values.
- f. To verify your changes, log in as the *admin_user_ID* again. Run the following commands and verify the expected results:

```
$ ulimit -aH
time(seconds) unlimited
file(blocks) unlimited
data(kbytes) unlimited
stack(kbytes) unlimited
coredump(blocks) unlimited
nofiles(descriptors) 65536
memory(kbytes) unlimited
```

```
$ ulimit -aS
time(seconds) unlimited
file(blocks) unlimited
data(kbytes) unlimited
stack(kbytes) unlimited
coredump(blocks) unlimited
nofiles(descriptors) 32768
memory(kbytes) unlimited
```

- g. Restart the enterprise search system:

```
esadmin system stopall
esadmin system startall
```

Setting up the information center to access the public Web site

The OmniFind Enterprise Edition information center is automatically installed. If you want to access the information center on a public IBM Web site instead of the installed version, you must edit the `es.cfg` file.

To set up the information center so that you access only the version that is available on a public IBM Web site:

1. Log in as the enterprise search administrator. For a multiple server installation, log in on the index server.
2. Open the `ES_NODE_ROOT/nodeinfo/es.cfg` file in a text editor.
3. In the line `DB2ICDocs4ES`, set the value to `http\://publib.boulder.ibm.com/infocenter/discover/v8r5m0/`. For example:
`DB2ICDocs4ES=http\://publib.boulder.ibm.com/infocenter/discover/v8r5m0/`
4. Restart the enterprise search system:

```
esadmin system stopall
esadmin system startall
```

Related tasks

“Starting and stopping the information center” on page 48

Related reference

 [Enterprise search documentation](#)

Mapping collection data to CIFS drives

On Windows, you can configure the system to use Common Internet File System (CIFS) network drives to store enterprise search collection data.

About this task

To divide collection data among multiple locations, you can create an environment variable for enterprise search and map the shared CIFS network drives that you want to use.

Restrictions

- Ensure that the enterprise search administrator ID can access the network drives. The network drives must be accessible even when the enterprise search administrator is not interactively logged in.
- In a multiple server installation, different enterprise search servers must use the same network drive letter but map to different physical locations. You cannot map to the same physical location from different enterprise search servers.
- The number of available mapped drives that you configure is limited by your operating system.
- The mapped drive letter should not already exist. That is, do not use a drive letter that is already used by a physical device, such a high-density drive or CD-ROM drive.

- The drives that you map for enterprise search are not displayed when the enterprise search administrator is logged in.
- The Universal Naming Convention (UNC) path cannot end with a backward slash (\) character.
- For some of CIFS drives, depending on which version of Windows, a CIFS server, or a Network Attached Storage (NAS) product is installed, you cannot map collection data to CIFS drives.

Procedure

To map CIFS network drives for storing collection data, do the following steps after you install enterprise search. In a multiple server configuration, repeat these steps on all enterprise search servers.

1. Create the following system environment variable:

```
ES_MAP_DRIVE=drive_letter:UNC_path [;drive_letter:UNC_path ...]
```

Where:

drive_letter

Specifies the network drive letter to be mapped.

UNC_path

Specifies the path to be used for storing collection data, such as \\jkenterprises\directory1.

To map multiple network drives, type a semicolon (;) followed by the additional drive letter and UNC path statements. The following example shows two directory paths mapped to two drive letters:

```
ES_MAP_DRIVE=T:\\jkenterprises1\\esdata;U:\\jkenterprises2\\esdata
```

2. Restart the computer.

Examples:

Correct: Different servers map to different physical locations

Index server: ES_MAP_DRIVE=T:\\server1\\dir1

Search server: ES_MAP_DRIVE=T:\\server1\\dir2

Correct: Different servers map to the same top-level path but different subdirectories

Index server: ES_MAP_DRIVE=T:\\server1\\dir1\\esdata1

Search server: ES_MAP_DRIVE=T:\\server1\\dir1\\esdata2

Incorrect: Different servers map to the same physical location

Index server: ES_MAP_DRIVE=T:\\server1\\dir1

Search server: ES_MAP_DRIVE=T:\\server1\\dir1

Incorrect: Different servers share the same physical path

Index server: ES_MAP_DRIVE=T:\\server1\\dir1

Search server: ES_MAP_DRIVE=T:\\server1\\dir1\\dir2

Starting an enterprise search system

Before you can use the enterprise search administration console to create collections, you must start several processes or services unless they are already running in the background or unless you started the enterprise search system through the First Steps program.

Restrictions

You must be an enterprise search administrator to start an enterprise search system. The user account must be one that can be authenticated with local authentication. If you attempt to start the system with an Andrew File System (AFS[®]) account, errors occur.

Procedure

To start an enterprise search system:

1. If you installed enterprise search as a two server or four server configuration, log in as the enterprise search administrator and start the common communication layer (CCL) on each server:

AIX, Linux, or Solaris

```
startccl.sh -bg
```

Windows command prompt

```
startccl
```

Windows Services administrative tool

To start CCL in the background:

- a. Launch Windows Services: **Start** → **Programs** → **Administrative Tools** → **Services**.
 - b. Right-click **IBM OmniFind Enterprise Edition** and click **Start**.
2. Start the enterprise search system components:
 - a. Log in as the enterprise search administrator on any enterprise search server.
 - b. Start all system components: `esadmin system startall`
This command starts the following processes and applications:
 - The CCL on the computer where you run the command, if the CCL is not already running
 - The database network server for enterprise search
 - The ESAdmin session on the index server
 - The Web server (in a multiple server configuration, the Web server is started on both search servers)
 - The ESSearchServer and ESAdmin applications in WebSphere Application Server (in a multiple server configuration, the applications are started on both search servers)
 - The enterprise search information center (in a multiple server configuration, the information center is started on both search servers)
 3. Open a browser and enter the following URL to start the enterprise search administration console, where *hostname* is the host name of one of the search servers:

`http://hostname/ESAdmin/`

4. Log in to the enterprise search administration console as the enterprise search administrator.

For information about using the administration console, see the online help. To view the administration documentation, open the information center or browse to the `ES_INSTALL_ROOT/docs/locale/pdf` directory and open the `iiysa.pdf` file.

Related tasks

“Starting and stopping the information center”

Related reference

 Stopping an enterprise search system

Starting the First Steps program

After you install OmniFind Enterprise Edition, you can use the First Steps program to start the enterprise search system, verify the installation, and open the documentation.

You can start First Steps by selecting the check box on the last window of the installation program or by running a command. The command for starting First Steps is in the `ES_INSTALL_ROOT/bin` directory.

Procedure

1. Start First Steps:
 - On AIX, Linux, or Solaris, log in as the enterprise search administrator and enter the following commands, where `display_server_host_name:0.0` is the host name for the system that you are using to run First Steps:

```
export DISPLAY=display_server_host_name:0.0
firststep.sh
```
 - On Windows, click the **First Steps** shortcut from the **Start** menu or double-click the `firststep.bat` file in the `ES_INSTALL_ROOT\bin` directory.
2. To start the enterprise search system, click **Start Server**. You can see a status report to confirm that all of the components were started. You must start the system before you can verify the installation, view the documentation, or open the administration console or search application.
3. To verify the installation, click **Verify Installation**. Messages inform you of the success of each operation.
4. Optional: You can also select options to view the product documentation, start the administration console, and start the sample search application. If this is the first time that you are starting the administration console, or if you have not yet configured additional administrative users, log in with the enterprise search administrator ID that was specified when OmniFind Enterprise Edition was installed.

Starting and stopping the information center

The information center must be available before you can use the online help.

About this task

The information center contains the documentation for OmniFind Enterprise Edition, Version 8.5.

Typically, the information center is started when the enterprise search system is started. The **esadmin system startall** command starts the Web server and the information center when it starts the enterprise search server components. Use the commands in this procedure if you need to stop and start the information center without stopping and restarting other enterprise search components. For example:

- If the information center does not start when you start the enterprise search system or when you attempt to start it from the First Steps application, determine whether there is a conflict with the default information center port, 8888. If port 8888 is used by another process, you must edit the information center startup script to specify a different port and then start the information center.
- If you click **Help** in the administration console or sample search application, and no help is displayed, you might need to remove unnecessary configuration files and restart the information center.

For a multiple server installation, the information center is installed on both search servers, so you must stop and start the information center on both servers.

The commands in this procedure use `ES_INSTALL_ROOT` to represent the enterprise search installation directory. The default installation paths are:

AIX: /usr/IBM/es
Linux: opt/IBM/es
Solaris: opt/IBM/es
Windows: C:\Program Files\IBM\es

Procedure

Complete the following steps to stop and restart the information center. In a multiple server installation, do these steps on both search servers:

1. If the information center does not start when you start the enterprise search system or when you attempt to start it from the First Steps application, ensure that the port used by the information center is not used by another process.

- a. Edit the following file:

AIX, Linux, and Solaris

```
ES_INSTALL_ROOT/WebSphereIIIInformationCenter/ibm_help/  
IC_start.sh
```

Windows

```
ES_INSTALL_ROOT\WebSphereIIIInformationCenter\ibm_help\  
IC_start.bat
```

- b. Change the **-port** parameter from 8888 to a port that is not in use.
 - c. Go to step 3 on page 50 to start the information center.
2. If help is not displayed when you click **Help**, you might need to do the following steps:

- a. Enter the following commands to stop the information center:

AIX, Linux, and Solaris

```
cd $ES_INSTALL_ROOT/WebSphereIIIInformationCenter/ibm_help  
./IC_end.sh
```

Windows

```
cd %ES_INSTALL_ROOT%\WebSphereIIIInformationCenter\ibm_help  
IC_end.bat
```

- b. Remove all the files from the ES_INSTALL_ROOT/ WebSphereIIInformationCenter/ibm_help/eclipse/configuration directory except for the config.ini file.
 - c. Go to step 3 to start the information center.
3. Enter the following command to start the information center. You do not see a confirmation message after the information center is started.

AIX, Linux, and Solaris

You can start the information center so that it runs in the background:

```
cd $ES_INSTALL_ROOT/WebSphereIIInformationCenter/ibm_help  
/bin/nohup ./IC_start.sh &
```

Windows

```
cd %ES_INSTALL_ROOT%\WebSphereIIInformationCenter\ibm_help  
IC_start.bat
```

You cannot close the command window or log off from the session after you start the information center. If you want to start the information center in the background, you can register **IC_start.bat** as a Windows task, and then use Windows functions to start the information center as a background task. For information about scheduling Windows tasks, see <http://support.microsoft.com/kb/814596/en> and <http://technet.microsoft.com/en-us/library/bb490996.aspx>.

4. To test that the information center is started, open a Web browser and go to the following URL, where *port* is the port specified in the startup script for the information center:
`http://localhost:port`

Troubleshooting:

On Windows, you might see the following errors when you attempt to start the enterprise search system with the First Steps program:

```
FFQC5387W The information center on the search server cannot be accessed.  
The information center on {search_server} is not running.  
FFQC5395E One or more of the required system services are not running.
```

Review the error and warning messages to see which services are not started and to learn more about the problem. For additional information, see the log file %ES_NODE_ROOT%\logs\trace\startstatus.log. In most cases, you must follow the preceding procedure to start the information center from the command line.

Related reference


 [Enterprise search documentation](#)

Removing enterprise search

You can remove enterprise search by using the removal program in graphical, text, or silent mode.

If you plan to use your enterprise data in a future installation, be sure to back up your system before you remove the enterprise search components.

Related concepts

 Backing up and restoring an enterprise search system

Removing enterprise search from AIX, Linux, and Solaris systems

The removal program will remove the enterprise search components including the Web applications in WebSphere Application Server.

You can remove enterprise search by using the graphical mode, text mode, or silent mode.

Attention: If you create collections outside of the ES_NODE_ROOT data directory, the removal process does not delete those collections. It does not delete data from directories other than the default directory. You must delete those other directories manually after you remove the product.

You use a response file on each server to remove enterprise search in silent mode. For example, run the following command, where the default *response_file_name* is the `uninstall.rsp` file:

```
./uninstall.bin -silent -options response_file_name
```

Procedure

To remove enterprise search with the graphical removal program:

1. Log in as the root user.
2. Change directories to the `_uninst` directory in the `ES_INSTALL_ROOT` installation directory.
3. Enter `./uninstall.bin`
4. After the removal program starts, click **Next** to remove enterprise search.
5. Optional: Select the **Remove all data and configuration files** option to remove enterprise search data. By selecting this option, you will remove all enterprise search data, system configuration files, and the enterprise search database from the crawler server.
6. Optional: Manually delete the enterprise search administrator ID from the operating system.
7. Repeat Steps 1-6 on each server where the enterprise search software is installed.

Removing enterprise search from Windows systems

The removal program will remove the enterprise search components including the Web applications in WebSphere Application Server.

You can remove enterprise search on Windows with the Add/Remove programs function, or you can remove it with the enterprise search removal program.

You can also remove enterprise search by using the graphical mode (most common), text mode, or silent mode.

Attention: If you created collections outside of the ES_NODE_ROOT data directory, the removal process does not delete them. It does not delete data from directories other than the default directory. You must delete those other directories manually after you remove the product.

Use a response file on each server to remove enterprise search in silent mode. For example, run the following command, where the default *response_file_name* is the `uninstall.rsp` file:

```
uninstall.exe -silent -options response_file_name
```

Procedure

To remove enterprise search with the graphical removal program:

1. Browse or change to the `_uninst` directory in the `ES_INSTALL_ROOT` installation directory.
2. Double-click the `uninstall.exe` file or enter `uninstall.exe`.
3. After the removal program starts, click **Next** to remove enterprise search.
4. Optional: Select the **Remove all data and configuration files** option to remove enterprise search data. By selecting this option, you will remove all enterprise search data, system configuration files, and the enterprise search database from the crawler server.
5. Optional: Manually delete the enterprise search administrator ID from the operating system.
6. Restart the computer.
7. Repeat Steps 1-6 on each server where the enterprise search software is installed.

Troubleshooting installation problems

Installation problems might include unsuccessful installation of prerequisite software, such as the installation and configuration of WebSphere Application Server, running out of space, and services or processes not starting.

Running out of space during installation

If you run out of disk space when the enterprise search installation program runs, you can change the temporary directory for the installation program.

Symptoms

The installation program fails because there is not enough disk space for temporary files to be unpacked.

Resolving the problem

If default temporary directory does not have enough space, use a different directory that has more space by adding the following parameter when you start the installation from a command line:

```
-is:tempdir directory
```

For example, on Windows, enter the following command:

```
install-win32.exe -is:tempdir d:\temp
```

ArrayIndexOutOfBoundsException occurs during installation

An ArrayIndexOutOfBoundsException exception might be displayed when you run the installation program for enterprise search.

Symptoms

The following output is an example of this exception:

```
java.lang.ArrayIndexOutOfBoundsException: Array index out of range: 2
at java.util.Vector.remove(Vector.java(Compiled Code))
  at com.installshield.database.ConnectionPool.getConnection
  (Unknown Source)
  at com.installshield.database.ConnectionManager.getConnection
  (Unknown Source)
  at com.installshield.database.TransactionProcessor.connect
  (Unknown Source)
  at com.installshield.database.TransactionProcessor.query
  (Unknown Source)
  at com.installshield.database.SQLProcessor.queryIntegers
  (Unknown Source)
  at com.installshield.database.designtime.ISControlEventDef.getActionSequence
  (Unknown Source)
  at com.installshield.database.runtime.impl.ISBaseEventImpl.getActionSequence
  (Unknown Source)
  at com.installshield.event.EventDispatcher.triggerEvent
  (Unknown Source)
  at com.installshield.event.EventDispatcher$BackgroundEventThread.run
  (Unknown Source)
```

Causes

This issue is caused by working with a database that the InstallShield program uses to track products that are installed on a computer.

Resolving the problem

This exception does not affect the product installation. The installation should complete successfully despite the occurrence of this exception.

Installation stops after prerequisite software is installed on AIX, Linux, and Solaris

On AIX, Linux, and Solaris operating systems, the enterprise search installation program might enter an endless loop after it installs the prerequisite software products.

Symptoms

The installation program starts after it silently installs the prerequisite software and before it begins to install the enterprise search software.

Causes

The Java™ Runtime Environment (JRE) is not copied from the temporary directory to the installation directory after the prerequisite products are installed.

Diagnosing the problem

To determine whether this problem occurred, go to the enterprise search installation directory (such as `/opt/IBM/es`). If a directory called `_jvm` exists and is empty or contains only a directory called `jre`, then this problem occurred.

Resolving the problem

To stop the endless loop and finish the installation:

1. Stop the installation program and ensure that no processes are still running.

Tip: Occasionally a process called `tempxxxxxx` is running, where `xxxxxx` is a series of random numbers. Be sure to kill this process because it might create unnecessary processing.

2. Remove the `_jvm` directory from the installation root directory (such as `/opt/IBM/es/_jvm`).
3. If a file called `/tmp/esinstall.lockfile` exists, remove it. All of the prerequisite software should now be installed.
4. Restart the installation program.

Installation on Linux stops during validation

The installation program on Linux stops responding when it attempts to validate the installation.

Symptoms

A window that states **Validation** is displayed and the installation program stops responding.

Causes

This problem is caused by the validation of the umask and the libstdc++ libraries.

Resolving the problem

To solve this problem, stop the installation program that is no longer responding, validate the umask and libstdc++ libraries, and run the installation program in a way that bypasses these checks.

1. Cancel the installation program that is no longer responding.
2. The installation program creates the file `esinstall.lockfile` in the temp directory to ensure that multiple installations do not run at the same time. Delete this file to prevent an error message from being displayed during subsequent installations.
3. If you need to review or accept the license agreement again, remove the `temp/license` directory before you restart the installation program. After you accept the license agreement the first time, it is not displayed again unless you remove this directory.
4. Run the `umask` command from the command line. The installation program requires the umask to be set to 022 for the installation to proceed properly.
5. Verify that the appropriate libstdc++ libraries are installed by entering the command that applies to your version of Linux:

```
Red Hat Enterprise Linux Advanced Server 3.0  
rpm -q libstdc++-3.2.3-34
```

```
Red Hat Enterprise Linux Advanced Server 4.0  
rpm -q compat-libstdc++-33-3.2.3-47.3
```

```
SUSE Linux Enterprise Server 8.0  
rpm -q libstdc++-3.2.2-38
```

```
SUSE Linux Enterprise Server 9.0  
rpm -q libstdc++-3.3.3-43.24
```

6. Run the installation program again, and use the following parameters to bypass the validation checks that are causing the installation program to stop responding:

```
./install-linux.bin -W validateLibstdcLibraries.active="false" -W  
umaskTest.active="false"
```

Problems installing or starting on Windows

Problems can cause the installation or the starting of enterprise search to fail on Windows.

Symptoms

The installation program does not run successfully or the enterprise search system does not start after the product is installed.

Resolving the problem

Insufficient user rights

Ensure that the user ID that you use to install enterprise search and the user ID that you use for the enterprise search administrator ID have the following user rights:

- Act as part of operating system
- Lock pages in memory
- Create a token object
- Replace a process level token
- Impersonate a client after authentication
- Increase quotas (In Windows 2003, this option is labeled Adjust memory quotas for a process.)
- Log on as a service

If the user ID belongs to a domain, also ensure that the domain rights allow these user rights. For example, the domain cannot disallow the ability to act as part of the operating system.

Incorrect version of the operating system

Check the following Web site for supported operating systems: Requirements for OmniFind Enterprise Edition, Version 8.5.

Cannot install WebSphere Application Server on Windows

When you install a new OmniFind Enterprise Edition system and its required software on a Windows server, the WebSphere Application Server installation fails.

Symptoms

After you use the OmniFind Enterprise Edition installation program to install WebSphere Application Server, the WebSphere Application Server does not start when you start the enterprise search system.

Causes

The enterprise search installation program asks whether you want to run the WebSphere Application Server components as a Windows service. This service is set up only if you use OmniFind Enterprise Edition to install WebSphere Application Server.

If you run the WebSphere Application Server components as a service, you must ensure that the WebSphere Application Server user ID that is associated with the Windows service has the appropriate administrative privileges and user rights. These rights are not initially granted and they are not set by default for users in the administrator group.

Domain policies override local user settings. Before you assign user rights to a user ID, ensure that the domain policies do not deny any of the required rights. For example, if the domain denies the right to act as part of the operating system, then the user ID is denied that right.

If you do not run the WebSphere Application Server components as a Windows service, these user rights are unnecessary.

Resolving the problem

To specify the appropriate rights:

1. Click **Control Panel** → **User Accounts**.
 - If the WebSphere Application Server user ID is an account on this computer, select the option to change the account. For the account type, ensure that the user ID has administrator privileges.
 - If the WebSphere Application Server user ID is not an account on this computer, select the option to create the account. Add the user ID and, for the account type, ensure that the user ID has administrator privileges.
2. Click **Control Panel** → **Administrative Tools** → **Local Security Policy** → **Local Policies** → **User Rights Assignment**.
3. Ensure that the user ID has the following rights:
 - Act as part of the operating system
 - Log on as a service
4. Restart the computer.

WebSphere Application Server is installed and you are prompted for the CD

When you run the installation program for enterprise search, you are prompted to specify the location of the WebSphere Application Server CD or electronic distribution image even though WebSphere Application Server is already installed.

Symptoms

The installation program can install WebSphere Application Server or use the version of WebSphere Application Server that is already installed. Even though you instruct the program to use the installed version, you are prompted to specify where the program can find the software for installing WebSphere Application Server.

Causes

The installation program determines whether WebSphere Application Server is already installed. At times, the program might discover old WebSphere directories that are mostly empty (for example, if WebSphere Application Server was removed and a new version was installed). In these cases, the installation program determines that some or all of the WebSphere software must be installed.

Resolving the problem

To solve this problem:

1. Cancel the installation program.
2. If any old WebSphere Application Server or IBM HTTP Server directories still exist on the computer after you removed these products, delete the old directories.
3. Restart the installation program for enterprise search.

Security roles for enterprise search applications are not set properly in WebSphere Application Server

On some computers, the security roles that the enterprise search Web applications require in WebSphere Application Server are not set correctly.

Symptoms

This problem can result in an HTTP 403 Forbidden error when the WebSphere Application Server is started for enterprise search.

Causes

OmniFind Enterprise Edition deploys several applications to WebSphere Application Server. On some computers, the settings for mapping security roles to user or group settings for the Everyone? and All authenticated? roles are cleared even if they were set during a previous installation. This problem can occur during the initial installation and potentially during Hot Fix installations.

Resolving the problem

To solve this problem, use the WebSphere administrative console to map the roles properly.

1. Configure Enterprise Applications and select the ESSearchServer application.
2. Select the option to map security roles to users and groups.
3. Select the **Everyone?** and **All authenticated?** check boxes.
4. Save the configuration changes.

Cancelling the removal program for a fix pack before it finishes

The removal program for a fix pack might end abnormally before the removal process is complete.

Symptoms

You attempt to remove a fix pack by using the console mode and you inadvertently press Ctrl + C. The removal program ends abnormally.

Resolving the problem

To complete the removal of a fix pack:

1. Reinstall the fix pack.
2. Check for successful completion.
3. Remove the reinstalled fix pack.

Enterprise search documentation

You can read the OmniFind Enterprise Edition documentation in PDF or HTML format.

The OmniFind Enterprise Edition installation program automatically installs the information center, which includes HTML versions of the documentation for enterprise search. For a multiple server installation, the information center is installed on both search servers. If you do not install the information center, when you click help, the information center opens on an IBM Web site.

To see installed versions of the PDF documents, go to `ES_INSTALL_ROOT/docs/locale/pdf`. For example, to find documents in English, go to `ES_INSTALL_ROOT/docs/en_US/pdf`.

To access the PDF versions of the documentation in all available languages, see the OmniFind Enterprise Edition, Version 8.5 documentation site.

You can also access product downloads, fix packs, technotes, and the information center from the OmniFind Enterprise Edition Support site.

The following table shows the available documentation, file names, and locations.

Table 2. Documentation for enterprise search

Title	File name	Location
Information center		http://publib.boulder.ibm.com/infocenter/discover/v8r5/
<i>Installation Guide for Enterprise Search</i>	iiysi.pdf	ES_INSTALL_ROOT/docs/locale/pdf/
<i>Quick Start Guide</i> (This document is also available in hardcopy for English, French, and Japanese.)	OmniFindEE850_qsg_ <i>two-letter</i> locale.pdf	ES_INSTALL_ROOT/docs/locale/pdf/
<i>Administering Enterprise Search</i>	iiysa.pdf	ES_INSTALL_ROOT/docs/locale/pdf/
<i>Programming Guide and API Reference for Enterprise Search</i>	iiysp.pdf	ES_INSTALL_ROOT/docs/en_US/pdf/
<i>Troubleshooting Guide and Messages Reference</i>	iiysm.pdf	ES_INSTALL_ROOT/docs/locale/pdf/
<i>Text Analysis Integration</i>	iiyst.pdf	ES_INSTALL_ROOT/docs/locale/pdf/

Accessibility features

Accessibility features help users who have a disability, such as restricted mobility or limited vision, to use information technology products successfully.

IBM strives to provide products with usable access for everyone, regardless of age or ability.

Accessibility features

The following list includes the major accessibility features in OmniFind Enterprise Edition:

- Keyboard-only operation
- Interfaces that are commonly used by screen readers

The OmniFind Enterprise Edition Information Center, and its related publications, are accessibility-enabled. The accessibility features of the information center are described at http://publib.boulder.ibm.com/infocenter/discover/v8r5m0/topic/com.ibm.classify.nav.doc/dochome/accessibility_info.htm.

Keyboard navigation

This product uses standard Microsoft® Windows navigation keys.

You can also use the following keyboard shortcuts to navigate and advance through the OmniFind Enterprise Edition installation program.

Table 3. Keyboard shortcuts for the installation program

Action	Shortcut
Highlight a radio button	Arrow key
Select a radio button	Tab key
Highlight a push button	Tab key
Select a push button	Enter key
Go to the next or previous window or cancel	Highlight a push button by pressing the Tab key and press Enter
Make the active window inactive	Ctrl + Alt + Esc

Interface information

The user interfaces for the administration console, sample search application, and search application customizer are browser-based interfaces that you can view in Microsoft Internet Explorer or Mozilla FireFox. See the online help for Internet Explorer or FireFox for a list of keyboard shortcuts and other accessibility features for your browser.

Related accessibility information

You can view the publications for OmniFind Enterprise Edition in Adobe Portable Document Format (PDF) using the Adobe Acrobat Reader. The PDFs are provided on a CD that is packaged with the product, or you can access them at

<http://www.ibm.com/support/docview.wss?rs=63&uid=swg27010938>.

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Index

A

- accessibility features for this product 61
- administrator ID 11
- administrator password
 - restrictions 11
 - special characters 11
- AIX
 - EXTSHM environment variable 7
 - maintenance levels 7
 - preparing for installation 7
 - ulimit values 42
- architecture
 - four servers 3
 - single server 3
 - two servers 3

C

- CIFS drives, mapping 44
- collection data storage, CIFS drives 44
- connectors for Content Edition 9
- console installation 15
- Content Edition connectors 9
- crawler component
 - four server architecture 3, 31
 - four server installation 33
 - single server architecture 3
 - single server installation 24
 - two server architecture 3
 - two server installation 26
- crawler scripts 39
- crawler server
 - four server architecture 3, 31
 - four server installation 33
 - single server architecture 3
 - single server installation 24
 - two server architecture 3
 - two server installation 26
- crawler setup requirements 39

D

- data directory 10
- data sources
 - Content Edition connectors for 9
 - crawler setup requirements 39
- DB2 Enterprise Server
 - installation 41
 - license key 41
- db2ese_o.lic.txt file 41
- db2licm command 41
- documentation
 - finding 59
 - HTML 59
 - PDF 59

E

- enterprise search
 - removing from AIX, Linux, and Solaris 51
 - removing from Windows 52
 - starting 47
 - system diagrams 3
 - upgrading 19
 - WebSphere Application Server 5.1.1 19, 20
 - WebSphere Application Server 5.1.1.3 19, 20
 - WebSphere Application Server 6.0.2 19, 20
- enterprise search administrator ID 11
- enterprise search administrator password restrictions 11
- enterprise search data directory 10
- enterprise search installation
 - four servers 31
 - overview 1, 23
 - single server 23, 24
 - two servers 26
- enterprise search installation directory 10
- ES_MAP_DRIVE environment variable 44
- es.cfg file 44
- esinstall.lockfile file 54
- EXTSHM, AIX environment variable 7

F

- First Steps, starting 48
- firststep.bat command 48
- firststep.sh command 48
- fix pack removal, troubleshooting 58
- four server installation
 - architecture 3
 - crawler component 33
 - index component 37
 - overview 31
 - search component 35

G

- graphical installation 15

H

- HTML documentation for enterprise search 59

I

- IC_end command 48
- IC_start command 48

index component

- four server architecture 3
- four server installation 37
- single server architecture 3
- single server installation 24
- two server architecture 3
- two server installation 26

index server

- four server architecture 3
- four server installation 37
- single server architecture 3
- single server installation 24
- two server architecture 3
- two server installation 26

information center

- accessing on the public Web site 44
- default port 48
- starting 48
- stopping 48

installation

- crawler component, four server configuration 33
- crawler component, two server configuration 26
- DB2 Enterprise Server 41
- four server overview 31
- four servers 31
- index component, four server configuration 37
- index component, two server configuration 26
- methods 15
- overview 1, 23
- search component, four server configuration 35
- search component, two server configuration 26, 29
- single server 24
- single server overview 23
- two server overview 26
- installation directory 10
- installation form 13
- installation methods
 - console mode 15
 - graphical 15
 - silent 15
 - text mode 15
- installation order
 - required software, four servers 31
 - required software, two servers 26
- installation overview 23
 - four servers 31
 - single server 23
 - two servers 26

L

- large memory models 5
- Linux
 - ulimit values 42

M

- medium memory models 5
- memory models, description 5

N

- network drives, mapping 44

O

- operating systems
 - preparation 7

P

- PDF documentation for enterprise search 59
- post-installation tasks 39
 - CIFS drive configuration 44
 - crawler setup requirements 39
 - information center URL 44
 - Windows service configuration 39

R

- registration
 - DB2 Enterprise Server 41
- removing
 - enterprise search from AIX, Linux, and Solaris 51
 - enterprise search from Windows 52
- required software
 - order of installation, four servers 31
 - order of installation, two servers 26
- response files
 - AIX 17
 - Linux 17
 - silent installation 17
 - Solaris 17
 - templates 17
 - Windows 17

S

- search component
 - four server architecture 3
 - four server installation 35
 - single server architecture 3
 - single server installation 24
 - two server architecture 3
 - two server installation 26, 29
- search server
 - four server architecture 3
 - four server installation 35
 - single server architecture 3
 - single server installation 24
 - two server architecture 3
 - two server installation 26, 29
- silent installation 15
 - AIX 17
 - Linux 17
 - response files 17
 - Solaris 17
 - templates 17

- silent installation (*continued*)
 - Windows 17
- single server installation
 - architecture 3
 - crawler component 24
 - index component 24
 - overview 23
 - search component 24
- small memory models 5
- Solaris
 - checking for patches 8
 - preparing for installation 8
 - ulimit values 42
- SPARC patches 8
- starting
 - enterprise search 47
 - First Steps 48
 - information center 48

T

- tempdir parameter 53
- text mode installation 15
- troubleshooting
 - fix pack removal 58
 - installation space 53
 - installation stops 54
 - JRE 54
 - security roles for WebSphere 58
 - temp directory 53
 - WebSphere Application Server ID 56
 - WebSphere Application Server security roles 58
 - Windows user rights 55
- two server installation
 - architecture 3
 - crawler component 26
 - index component 26
 - overview 26
 - search component 26, 29

U

- ulimit values 42
- upgrade
 - enterprise search 19
 - planning 19
 - WebSphere Application Server 5.1.1 19, 20
 - WebSphere Application Server 5.1.1.3 19, 20
 - WebSphere Application Server 6.0.2 19, 20
- user rights
 - enterprise search administrator ID 11
 - installation user ID 8
 - WebSphere Application Server ID 8, 56
 - Windows administrator 55

W

- WebSphere Application Server 5.1.1
 - migrating 20
 - removing 19

- WebSphere Application Server 5.1.1.3
 - migrating 20
 - removing 19
- WebSphere Application Server 6.0.2
 - migrating 20
 - removing 19
- Windows
 - preparing for installation 8
 - service configuration 39
 - services 8
- Windows services 8
- Windows user rights
 - enterprise search administrator 55
 - enterprise search administrator ID 11
 - installation user ID 8
 - installing enterprise search 55
 - WebSphere Application Server ID 8, 56

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