

IBM Enterprise Information Portal for
Multiplatforms



Planning and Installing Enterprise Information Portal

Version 8 Release 1

IBM Enterprise Information Portal for
Multiplatforms



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Note

Before using this information and the product it supports, read the information in “Notices” on page 175.

First Edition (May 2002)

This edition applies to Version 8 Release 1 of IBM Enterprise Information Portal for Multiplatforms (product number 5724-B43) and to all subsequent releases and modifications until otherwise indicated in new editions. This edition replaces GC27-0873-00.

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About this guide

This guide provides site planning and installation personnel with information about how to prepare for and install IBM® Enterprise Information Portal (EIP). The guide includes an overview of hardware and software requirements and contains specific information for installing and configuring EIP.

Who should use this guide

Use this guide if you plan for, install, or configure Enterprise Information Portal. If you are a systems analyst or systems planner, this guide helps you understand how the product fits into your operation.

Skills required to install Enterprise Information Portal

Installers should know how to:

- Install software on AIX®, Windows® servers, or Sun Solaris.
- Create and administer user ids, passwords, and define user rights in Microsoft Windows NT®, Windows 2000, AIX, or Sun Solaris.
- Use DB2® Control Center, Command Prompt and Command Window interfaces
- Modify.INI and.BAT files to configure environment settings and variables
- Use a command line interface
- Connect distributed components across a network
- Configure DB2 databases for local and remote access and set database authentication and target information using DB2 Client Configuration Assistant and DB2 Satellite Control Center

Where to find more information

Your product package includes a complete set of information to help you plan for, install, administer, and use your system. Product documentation and support are also available on the Web.

Information included in your product package

The product package contains an information center and each publication in portable document format (.PDF).

The information center

The product package contains an information center that you can install when you install the product. For information about installing the information center see *Planning and Installing Your Content Management System*.

The information center includes the documentation for Content Manager, Enterprise Information Portal, and IBM Content Manager VideoCharger for Multiplatforms. Topic-based information is organized by product and by task (for example, Administration). In addition to the provided navigation mechanism and indexes, a search facility also aids retrievability.

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>.

Table 1 shows the Content Manager publications included with IBM Content Manager for Multiplatforms.

Table 1. Content Manager publications

File name	Title	Publication number
install	<i>Planning and Installing Your Content Management System</i> ¹	GC27-1332-00
migrate	<i>Migrating to Content Manager Version 8</i>	SC27-1343-00
sysadmin	<i>System Administration Guide</i>	SC27-1335-00

Notes:

1. You receive a printed copy of *Planning and Installing Your Content Management System* with IBM Content Manager for Multiplatforms.

When you order IBM Content Manager for Multiplatforms, you also receive IBM Enterprise Information Portal for Multiplatforms. Or, you can separately order IBM Enterprise Information Portal for Multiplatforms. Table 2 shows the Enterprise Information Portal publications that are included with the product.

Table 2. Enterprise Information Portal publications

File name	Title	Publication number
apgwork	<i>Workstation Application Programming Guide</i> ¹	SC27-1347-00
ecliinst	<i>Installing, Configuring, and Managing the eClient</i>	SC27-1350-00
eipinst	<i>Planning and Installing Enterprise Information Portal</i> ²	GC27-1345-00
eipmanag	<i>Managing Enterprise Information Portal</i>	SC27-1346-00

Table 2. Enterprise Information Portal publications (continued)

File name	Title	Publication number
messcode	<i>Messages and Codes</i> ³	SC27-1349-00

Notes:

1. The *Workstation Application Programming Guide* contains information about programming applications for both Content Manager and Enterprise Information Portal.
2. When you separately order IBM Enterprise Information Portal for Multiplatforms, you receive a printed copy of *Planning and Installing Enterprise Information Portal* with the product.
3. *Messages and Codes* contains the messages and codes for Content Manager and Enterprise Information Portal.

Support available on the Web

Product support is available on the Web. Click **Support** from the product Web sites at:

<http://www.ibm.com/software/data/cm/>

<http://www.ibm.com/software/data/eip/>

The documentation is included in softcopy with the product. To access product documentation on the Web, click **Library** on the product Web site.

An HTML-based documentation interface, called Enterprise Documentation Online (EDO), is also available from the Web. It currently contains the API reference information. Go to the EIP Library Web page for information about accessing EDO.

How to send your comments

Your feedback helps IBM to provide quality information. Please send any comments that you have about this publication or other Content Manager or Enterprise Information Portal documentation. You can use either of the following methods to provide comments:

- Send your comments from the Web. Visit the IBM Data Management Online Reader's Comment Form (RCF) page at:
<http://www.ibm.com/software/data/rcf>
You can use the page to enter and send comments.
- Send your comments by e-mail to comments@vnet.ibm.com. Be sure to include the name of the product, the version number of the product, and the name and part number of the book (if applicable). If you are

commenting on specific text, include the location of the text (for example, a chapter and section title, a table number, a page number, or a help topic title).

What's new in EIP Version 8.1

The following changes have been made to the product:

Support for Sun Solaris

You can install connectors, features, and databases on Solaris systems.

Common system administration

A single client application provides separate access to Content Manager and Enterprise Information Portal administration.

New connectors

- The ICM connector for Content Manager Version 8 Release 1 allows you to take advantage of Content Manager Version 8's powerful document storage features.
- The new C++ Extended Search Version 3.7 connector runs on AIX.

Improved connectors

- Parametric text searches are supported from the federated layer and through a direct Extended Search connection.
- Functional enhancements and performance improvements to the OnDemand connector, including:
 - Modifications to the structure of an OnDemand DDO.
 - Asynchronous search is now supported

New information mining services

- Feature extraction
- Clustering
- Language identification

IBM Web Crawler

IBM Web Crawler is a feature that allows users to search for and summarize information on the Web and in Lotus Notes[®] databases.

Workflow enhancements

Workflow is now fully supported on AIX and Solaris. The workflow builder, APIs, and JavaBeans[™] provide improved workflow function and usability.

Information center

The browser-based information center includes the documentation for Content Manager, Enterprise Information Portal, and IBM Content Manager VideoCharger for Multiplatforms[™]. Topic-based information

is organized by product and by task (for example, Administration). In addition to the provided navigation mechanism and indexes, a search facility also aids retrievability.

Accessibility

Accessibility features help a user who has a physical disability, such as restricted mobility or limited vision, to use software products successfully. The major accessibility features for this product include:

- The ability to operate all features using the keyboard instead of the mouse.
- Support for enhanced display properties.
- Options for video and audio alert cues.
- Compatibility with assistive technologies
- Compatibility with operating system accessibility features
- Accessible documentation formats

Chapter 1. Introducing Enterprise Information Portal

Many paper-intensive enterprises, such as insurance companies and financial institutions, administer large volumes of business-related content. The need for an enterprise solution for managing and accessing business information spans many industries.

A *content server* stores multimedia objects, business forms, documents, and related data. The content server also stores metadata that allows employees to process and work with the content. When there is no way to effectively connect all the information on different content servers, a business can waste time and money by duplicating information or training employees to perform multiple searches.

EIP provides leading-edge technology to bring all of your enterprise resources to your workstation desktop. EIP can help you maximize the value of your information and multimedia assets by connecting disparate content servers through a single client. With an EIP client, users can quickly and concurrently access information on all connected content servers. Users can also mine information, conduct intelligent searches across content servers (including the Web or an intranet) and perform workflow tasks within your business processes.

With Enterprise Information Portal, you can customize applications for your enterprise by installing the connector toolkit and samples. Application programmers can use the connector toolkit and samples to create desktop and Web-based applications.

The next section provides a scenario about a fictitious insurance company, XYZ Insurance, to demonstrate the product's features and function.

Searching for customer information

XYZ Insurance (XYZ), a large auto insurance company, has a large collection of photographs, claims, policies, adjuster's notes, reports from experts, and other documents. XYZ is a large organization with offices in various locations around the country. XYZ has many employees who need quick access to documents stored across various media and locations: such as the Internet, network, and so forth.

The need

XYZ kept a majority of its information in physical filing cabinets, which involved the time-consuming task of filing documents. They had some

digitized information in a wide variety of media types. Paper files had become unmanageable and any video documentation became lost in storage. This system made finding misfiled documents difficult and led to poor productivity. XYZ wanted a system to manage customer information and gather it quickly from different systems throughout the company. It needed a single Web interface to access client information for all of its employees. XYZ wanted to have a low cost information management system, reduce operation costs, improve customer service, and increase market share.

The solution

XYZ Insurance deploys IBM Content Manager for Windows NT, VideoCharger, EIP, and eClient. They use these products because the components work together to provide solutions uniquely suited to XYZ's business needs. XYZ uses Content Manager to scan insurance applications, enter customer information into databases, and conduct workflow. Any video documentation that they receive, they store on VideoCharger. EIP is used as the middleware to access all of the Content Manager content servers. The eClient allows remote offices to access information over the Web.

With this solution in place, employees can search for information, enter any new information, and respond to customers in a timely manner. Document retrieval is now both simple and accurate and employees can maintain all information with 100% integrity. XYZ can manage more documentation as a result, because it no longer needs to have employees file paper documents or retrieve misplaced documents, thus increasing its market share.

XYZ Insurance deploys Enterprise Information Portal because the comprehensive search technologies allow them to connect and search all of their content servers for the retrieval of data. Now, when an XYZ Call Center representative receives a call, a single federated search retrieves all of the necessary policy holder information.

XYZ Insurance also uses the information mining feature to search for and retrieve information from the company's intranet. They also want to expand their use of workflow processes.

Introducing the Enterprise Information Portal components

This section explains each EIP component and describes the installation options.

See Chapter 3, "Enterprise Information Portal hardware and software requirements" on page 21 for information on component prerequisites.

Table 3 lists the components and the compatible operating systems.

Table 3. EIP component operating system compatibility

Component	Windows	AIX	Solaris	Notes
Administration database	yes	yes	yes	Database includes workflow builder functionality
Administration client	yes	no	no	Client can connect to databases installed on Windows, AIX or Solaris operating systems.
Connectors	yes	yes	yes	
Information mining	yes	yes	yes	
IBM Web Crawler	yes	yes	yes	
Text search client	yes	yes	yes	
Image search client	yes	yes	yes	
Connector toolkit and samples	yes	yes	yes	<ul style="list-style-type: none"> • Windows version includes source code to compile sample client. No sample client code installed on AIX. • Workflow samples and APIs are installed with the federated connector sample.
Viewer	yes	no	no	Installs OnDemand client and viewer.
Information center	yes	yes	yes	

Administration

The administration component provides the administration database and administration client subcomponents. When you install the administration database, you also install the workflow feature.

Administration database

The administration database is a DB2 database that manages information about EIP users and groups, privilege levels, passwords, user IDs, and other information. The database also provides the workflow and, optionally, the information mining functionality. You can install multiple databases. Each database provides the EIP workflow functionality. If you have a Content Manager Version 8 system, you can share the EIP administration database with the Content Manager Version 8 Library Server database. You can share the databases because the Library Server database contains all the information required by EIP.

Administration client

The administration client can be installed only on Windows workstations. You can install multiple clients. If you have a Content Manager Version 8 system, you can administer EIP and Content Manager Version 8 from the same client.

The client provides the interface that allows the administrator to:

- Define each content server for federated searching.
- Identify native entities and attributes on content servers and map them to federated entities.
- Maintain an inventory of the search criteria for all content servers.
- Create search templates.
- Identify and manage users and groups.
- Assign privileges to users and groups.
- Define access to search templates and set conditions on the actions users can take with the information retrieved from a search.
- Design and administer business workflow processes.

Connectors

The connectors provide the communications interface between EIP clients, the content servers, and the administration database. The content server connectors, such as Content Manager Version 7.1 connector, provide the functionality that allows EIP to log in to the server, search for information, and return the information to the administration or end-user clients. The federated connector connects the administration client to the administration database.

EIP provides the following connectors:

- Federated connector connects EIP client to the administration database.

- Relational database connector for DB2 Universal Database 7.1, JDBC driver 1.3 (Java™ only), ODBC 3.0 (C++ only), DataJoiner® 2.1.1.
- Content Manager connector for Content Manager Version 7.1 servers.
- Content Manager connector for Content Manager Version 8.1 servers.
- Content Manager OnDemand connector for Content Manager OnDemand Version 7.1.
- Content Manager for VisualInfo™ for 400® Version 4.3, and Version 5.1.
- Content Manager ImagePlus for OS/390® connector for ImagePlus/390 Folder Application Facility Version 3.1, Image Plus/390 ODM Version 3.1.
- Lotus® Domino.Doc™ connector for Domino.Doc Version 3.0a, Desktop Enabler Version 3.0a.
- Extended Search connector for Version 3.7.
- Information Catalog Manager connector for DB2. Universal Database Visual Warehouse™ Version 5.2, DB2 Universal Database Version 7.2.

Features

EIP has four optional features.

Information mining

Information Mining provides linguistic services to find hidden information in text documents on content servers. During text document processing, metadata is created that can be summarized, categorized, and searched. WebSphere® Application Server 4.0 (standard or advanced edition) is an information mining prerequisite. Further, you can cluster similar documents, extract features from documents, for example person or company names, and determine the language of a document.

Image Search client

Provides the interface required to access and administer Image Search functionality on a Content Manager Version 7 content server.

Text Search client

Provides the interface required to access and administer Text Search functionality on a Text Search server.

IBM Web Crawler

Web Crawler is a Java-based content crawler and miner. Web Crawler can crawl content in an intranet, extranet, or Internet web, Lotus Notes databases, or through Domino, local file systems, FTP collections, and NNTP newsgroups.

Web Crawler can mine metadata and text from many types of content. For example, HTML content can be mined for URL, title, body, time of last modification, and metatags such as author, keywords, description,

and so forth. Users select from a set of predefined miners for a given type of content. The content and/or mined metadata are saved to local disk.

Content viewer

Installing the OnDemand viewer also installs the OnDemand client and other files required to view documents retrieved from an OnDemand server.

Connector toolkits and samples

Install the EIP connector toolkit and samples to build your own Web or desktop client applications that access data and content on individual content servers. You must install the toolkits to create custom client applications.

You can use the toolkits to create customized clients and custom connectors for content servers. The toolkits provide:

- Java and C++ classes
- Content server-specific samples

Information center

The information center component contains the Enterprise Information Portal information center. The information center is a Web-based, searchable version of the Enterprise Information Portal library.

Chapter 2. Planning your Enterprise Information Portal system

The following sections provide information to help plan your EIP system. Your IBM sales representative can provide more details and work with you during the planning process.

Analyzing your business information requirements

Analyze your need to access, search for, retrieve and work with business information. This analysis helps you to decide on the appropriate EIP configuration. The list below represents some common considerations to help plan the right system for your business:

- The network topology strategy for your enterprise
- Types and quantity of clients to deploy
- Information useful for existing applications already contained in your content servers
- Business processes that use this information
- Number of potential users, their location, and potential network traffic
- Number and types of file formats to search for and display
- Hardware capabilities
- Quantity, version level, and location of content servers
- Average number of users who will simultaneously access one or more content servers

For example, you might decide to use multiple Enterprise Information Portal servers to balance workload across your network. You might have some clients on Windows 2000 and others on Windows 98. You also might decide that only certain clients can access the workflow processes of your business or perform information mining.

Planning a configuration

EIP offers multiple ways to configure a system. When you plan a configuration, you must understand how you want to configure your clients and your servers. You can install all components on a single server (Windows only) or distribute the components across AIX, Sun or Windows servers, or all three. Enterprise Information Portal supports RMI server configurations; see “Remote Method Invocation (RMI) server” on page 9.

EIP's architecture gives you the flexibility to design many different system configurations. Ask the following questions to help determine where to install the components:

- Local or remote connectors?
- Content server types?
- Features, such as information mining, workflow, IBM Web Crawler?
- Run-time or a development environment?
- Multiple RMI servers (an RMI server pool) to improve performance?

Choosing a server configuration

When designing the configuration to support your environment, you determine satisfactory response time. Response time depends on:

- The size of the objects you are searching for and viewing
- CPU speed, memory, disk space, network speed
- DB2 Universal Database (UDB) workload

Evaluate and adjust the possible configurations described in this section according to your unique requirements.

You can choose many ways to configure your servers for EIP, depending on your environment. The following sections describe these possible configurations for your servers:

- Full server
- Administration server and information mining server
- RMI server
- RMI server pool
- Web server
- Workflow server

Stand-alone server (Windows only)

The full server configuration consists of one server that includes all the prerequisites and all EIP components. The full server must be Windows-only because the administration client is only compatible with Windows operating systems. A full server would include:

- IBM DB2 UDB
- WebSphere Application Server
- MQSeries® Server and MQSeries Workflow
- Administration database and client
- Local and remote connectors
- Content viewers
- Connector toolkit and samples

- Information Center
- Information Mining
- IBM Web Crawler
- Workflow

A full server configuration can be useful for developing applications, learning the product, or performing a trial run of EIP. However, consider installing EIP on a distributed set of workstations to support multiple users with reasonable performance.

Administration server (Windows-only configuration)

You can configure one server to provide administration services by installing only the administration client, database, and federated connector on a single server. The administration server configuration is only compatible with Windows servers because the administration client is a Windows application.

Administration server (multiplatform configuration)

To configure a multiplatform administration server, you install the administration database and connectors on AIX or Solaris, and install the administration client on Windows. An RMI server or DB2 UDB Client Configuration Assistant to connect the Windows client to the database.

Web server

You can configure a workstation as a Web server to perform federated searches and display the results through a Web browser. A Web server supports the information mining feature. To take advantage of the Information Mining sample Java Server Pages (JSPs) and the The Information Structuring Tool (IST), the WebSphere Application Server should be installed on the workstation where you installed the Information Mining feature. If the WebSphere Application Server is on another workstation, you must configure an RMI connection to the Information Mining server.

Workflow server

Each administration database contains the tables required by EIP workflow. You can configure one server to support workflow. This is the recommended configuration. Workflow requires IBM MQSeries Server, IBM MQSeries Workflow, DB2 UDB and an administration database.

Remote Method Invocation (RMI) server

You can configure an RMI server to distribute client requests to components. See “RMI server requirements” on page 28 for the prerequisites to configure RMI servers on AIX and Windows platforms.

This section provides some guidelines for planning an RMI server. With RMI, you can create Java applications that communicate and pass objects to other Java applications over a network.

RMI allows multiple EIP clients to search content servers through connectors installed on one RMI server. If you choose a system that includes an RMI server, you do not have to install the remote connectors on each client. The RMI server supports the connectors, and EIP clients access the connectors on the RMI server when performing a search.

If you plan to use RMI to connect clients to content servers, you do not need the remote content server connectors on EIP client machines. You must write all custom client applications in Java to take advantage of RMI.

If you plan to use RMI to connect clients to content servers, you do not need the remote content server connectors on EIP client machines. You must write all custom client applications in Java to take advantage of RMI.

RMI server pool

You can configure EIP with multiple RMI servers to distribute client requests. A group of RMI servers is an *RMI server pool*. When a client communicates with an RMI server, this RMI server can delegate the client request to other members of the server pool. In this scenario, this RMI server acts as a master server. The master server itself fulfills client requests when all the server pool members reach their maximum number of connections.

The clients and the Web server connect with an RMI server in an RMI server pool configuration. Because all remote connectors can be shared on the RMI server, the RMI server pool configuration is scalable and easy to maintain.

Choosing a development workstation configuration

A development workstation can support a full system on a single workstation. The development workstation performs client and server functions. Developers can use the sample programs and the connector toolkit to build custom Web or custom client applications that access data and content from individual content servers.

For information about creating custom applications, see the *Workstation Application Programming Guide* and *online API reference*.

Choosing a client configuration

You can choose to configure your clients as one or any of the following types:

Requirement: If you install the eClient, you must install the Local Connectors.

Client using local connectors

Configure your client with the local connectors if you want your client to connect directly to one or more content servers. A client with local connectors can improve response time, but can require more disk space and a faster processor. This configuration requires you to update all clients when you add or upgrade the content server associated with the appropriate connector.

Client using remote connectors

In this configuration, you install only the sample client application and remote connectors on a workstation. The client accesses the content servers through an RMI server. This configuration eliminates the need to upgrade local connectors when systems change, but can worsen response time.

Client using local and remote connectors

Enterprise Information Portal supports client configurations that include both local and remote connectors. Choose this configuration if you want your client to connect directly to some local content servers and connect remotely to others.

Understanding Windows server machine types

When you install EIP on a Windows workstation, the installation program requires you to select a machine type. When you install EIP on AIX and Sun Solaris, you do not select a machine type. This section describes the machine types and has a table showing which components are available with each machine type.

Each machine type provides a specific group of components that support the system configurations described in “Introducing the Enterprise Information Portal components” on page 2. The machine types are EIP Client, EIP Server, and EIP Development Workstation. See Table 4 for more information.

It is essential to understand how the components offered by the three machine types fit into your system design. For example, you would select EIP Server to install the components that would support a full server or distributed server. You would select the Development Workstation machine type to install all of the components required for a Development Workstation server. The EIP Client machine type provides the components required for client-only configurations.

Table 4 lists the components offered by the three machine types.

Table 4. Components and machine types

Component	Machine Type		
	Client	Server	Development Workstation
Administration	no	yes	yes
Connectors	yes	yes	yes
Features	yes	yes	yes
Content Viewers	yes	yes	yes

Table 4. Components and machine types (continued)

Component	Machine Type		
	Client	Server	Development Workstation
Connector Toolkit and Samples	no	no	yes
Information	no	yes	yes

Planning system administration

You use the administration client to set up and manage your system. System administration tasks include defining federated search templates, managing information mining and workflow features, and managing access control. You can install multiple administration clients on additional Windows workstations.

The following list includes some high-level tasks to complete when planning for system administration:

- Identify the content servers where information is stored
- Identify the users who can access content server data through EIP
- Determine what level of security access users and user groups should have
- Define user groups who can access certain search templates
- Identify users who can perform information mining
- Define users and user groups who can perform tasks related to the business and workflow processes of your enterprise

See the EIP online help for details about how to perform these system administration tasks. See *Managing Enterprise Information Portal* for information about concepts behind the administration tasks.

Planning user IDs and passwords before you install EIP

It is very important to plan user IDs and passwords before you install Enterprise Information Portal and its prerequisites. Enterprise Information Portal combines multiple IBM products. Two prerequisite programs, DB2 Universal Database and WebSphere, require you to type user IDs and passwords that grant administrator and higher privileges on the server where you install them.

You must know how to define and administer user IDs and passwords on the AIX, Windows or Solaris servers where you plan to install EIP components

and prerequisites. For information about how to administer user IDs and passwords, see the documentation for the server.

Planning the user IDs and passwords falls into two categories: the server user IDs and passwords that permit you to install the prerequisites and the EIP components, and the user IDs and passwords you assign during installation that permit you to administer and work with EIP.

The information in this section applies to all operating systems.

Planning user IDs and passwords before you install DB2 Universal Database

The DB2 Universal Database installation program requires you to log in to the server with a locally-defined user ID and password.

To install DB2 on Windows servers, the user ID must:

- Belong to the administrator's group
- Have advanced rights to:
 - Act as part of the operating system
 - Create token object
 - Increase quotas
 - Replace a process level token

To install DB2 on AIX and Solaris servers, the user must:

- have root authority
- the root must be a member of a db2 group

When you install DB2 Universal Database, the program prompts you to create a DB2 UDB user ID and password. The program provides a default user ID of `db2admin`, and you must define and confirm a password. The DB2 installation program creates the user ID and password on the workstation and assigns the correct group memberships and privileges.

You can create a DB2 user ID and password before you install DB2 UDB and enter that information to replace the `db2admin` default user ID. If you create a different user ID you must follow the DB2 UDB user ID naming conventions listed below.

All user IDs have an eight-character limit and must start with one of the following characters:

- A through Z
- @, # or \$

All user IDs can include:

- A through Z. When used in most user IDs, A through Z are converted from lowercase to uppercase.
- 0 through 9
- @, #, \$ and _ (underscore)

Requirement: For all operating systems, you must log in to the server where you plan to install an administration database with a user ID that meets the requirements in this section. This is required because you are creating a DB2 database.

Planning user IDs and passwords before you install WebSphere

You must log in to the server where you will install WebSphere using a locally-defined user ID and password that:

- Belongs to the administrator's group
- Has advanced rights that permit users to act as part of the operating system

For information about how to administer user IDs and passwords on your local server, see the documentation for the workstation operating system.

Planning user IDs and passwords for EIP installation

The installation program prompts you to define user IDs and passwords when you install these components:

- Administration or Information Mining database
- Administration client
- Content Manager Version 8 connector
- Federated connector

Requirement: You must define and configure two user IDs on the local server before you can logon to the administration client and connect to or administer the database. One user ID must have DB2ADMIN privileges. The other user ID must have connect-only privileges. The two user IDs cannot be the same. This requirement applies to all operating systems.

Restriction: to install a database, you must log in to the server with a user ID that has DB2 ADMIN-level privileges.

The windows described in this section only apply to Windows and AIX. If you install EIP on Solaris, there are no installation windows but the user ID requirements are the same.

Database user ID requirements

When you install either the administration or Information Mining databases, you also install the federated connector. The installation

program prompts you to type user IDs in the Identify Administration Database window and in the Configure Federated Server Connection window.

In the Identify Administration Database window, the user IDs you type depend on your system configuration:

- If you sharing a Content Manager Version 8 database, you must type a user ID that has administration privileges for the Content Manager Version 8 database because you will modify that database.
- If you are creating an EIP-only database, you must type a user ID that has administration privileges. The user ID you type in the window is the one used by the administrator to logon to the administration client and administer the new database. **Restriction:** The administrator user IDs must conform to the DB2 user ID requirements and naming conventions described in “Planning user IDs and passwords before you install DB2 Universal Database” on page 13.

In the Configure Federated Server Connection window, type a user ID that has connect-only privileges and a user ID that has administrator privileges. Administrators and other users can use the connect-only user ID to log on to the database and view, but not change, information in the database.

Administration client user ID requirements

When you install the administration client, you also install the federated connector. The information you type in the Configure Federated Server Connection window defines the user IDs for the client.

Content Manager Version 8 connector user ID requirements

In the Configure Content Manager v8 Server Connection window, type a user ID that has connect-only privileges. This connect-only user ID allows the EIP administrator to define, connect to, and search the Content Manager Version 8 server.

Configure federated server connection user ID requirements

In the Configure Federated Server Connection window, type a user ID that has connect-only privileges. Administrators and other users can use this connect-only user ID to logon to the database and view, but not change, information in the database.

Planning user IDs and passwords for EIP operations

Enterprise Information Portal uses its own security mechanisms by mapping the user information in the administration database to provide federated access to the content servers.

With Enterprise Information Portal, you can connect to and synchronize with an LDAP server to help manage user IDs and passwords and configure a system that supports single sign-on. Single sign-on means that a user can search for and retrieve data from multiple content servers with a single user ID and password.

Each Enterprise Information Portal user requires a user ID. To access the back-end systems, administrators can enable the user mapping feature. User mapping creates a DB2 table for each user that maps the user ID to the back-end specific ID for access to individual data stores.

Planning Enterprise Information Portal database migration

The EIP Version 8 migration utility converts the information stored in EIP Version 7.1 databases to a format that is compatible with the new EIP Version 8.1 database. Besides the required EIP functionality, the new EIP Version 8 database contains, but does not use, all the information found in a Content Manager Version 8 database.

The migration process is automated and copies all the required information from the Version 7.1 database to a text file, then copies the text information into the new database. **Restriction:** The EIP migration process migrates users from Version 7.1 databases. EIP Version 8.1 does not provide any automated migration of workflow data. You must redraw your Version 7.1 workflow diagrams using the EIP Version 8.1 workflow builder and redeploy the EIP Version 7.1 workflow processes.

The following list gives basic guidelines to help plan EIP Version 7.1 database migration:

- You must create and catalog one EIP Version 8.1 database for each EIP Version 7.1 database you plan to migrate.
- You can only migrate one database at a time.
- The migrated databases will require more space than the Version 7.1 database to accommodate extra rows and tables that contain unused Content Manager Version 8 database functions.
- If you plan to migrate information mining, please contact your IBM representative. Before you remove the information mining services or EIP with all features, you must backup the information mining database. See “General planning hints and tips” on page 18.

Planning Enterprise Information Portal network security

This section lists six topics to consider when planning Enterprise Information Portal network security.

Authorization

- How do you ensure that users are who they claim to be?
- How do different elements in the system locate and determine whether to trust one another?
- How do you enable new employees, customers or business partners to access existing systems without major changes to existing security infrastructure?
- Whose identity should be used to determine authorization: the end user, the server, or some other entity?

Asset Protection

- Can you keep data confidential and private when it's stored and when it's traveling across relatively untrusted networks?
- How can you be sure that the data doesn't change while it's stored or in transit?

Accountability

- How can you tell who did what and when?
- How can you ensure, and prove, that requests and results are not altered, inadvertently or maliciously?

Administration

- Can you define the security policy?
- Can you ensure that policies are consistent across all elements of applications, systems, platforms, and networks?

Assurance

- How will the system keep its security promises?
- How can you ensure that the infrastructure and application resources -- including systems, networks, and data -- are not presently under attack?

Availability

- How do you prevent attacks on elements of the system that cause disruptions in service?
- How do you design for fault tolerance and ensure that applications and data are restored in the event of a serious failure?
- How can you keep the system up and running and also make needed modifications to the application, the systems, and the enterprise network?

Enterprise Information Portal security prevents these three types of security risks:

- Unauthorized network access to Enterprise Information Portal machines, clients, and features
- Unauthorized access to Enterprise Information Portal functionality
- Unauthorized viewing and use of content server information

General planning hints and tips

Enterprise Information Portal supports multiple databases. The databases are independent of each other. Multiple databases provide scalability and increased security. You can install multiple databases on one DB2 system. Enterprise Information Portal provides a utility to create databases after the initial installation.

Check the software version levels of the content servers to which you plan to connect to be sure the levels are compatible with the version level supported by the EIP connectors.

If you install a VisualInfo for AS/400[®] connector on any platform, the installation program prompts you for information required to generate the AS/400 network table:

- Version number
- Server name
- Host name
- Port number

EIP uses the data in the network table to connect to the AS/400 content server. The network table (`frnolint.tbl`) is installed in `cmroot`.

To access DB2 DataJoiner, make sure the authentication method for Enterprise Information Portal is server for the database defined in DB2 Universal Database.

Before you install Enterprise Information Portal Version 8 Release 1, use the Enterprise Information Portal Version 7.1 Uninstall program (or the AIX/Sun equivalent) to remove earlier versions of Enterprise Information Portal components.

Tip: Do not use Windows Add/Remove programs because it does not remove all EIP components.

If you installed the information mining feature with EIP in an earlier release, the information mining database (information mining database) is deleted

when you remove EIP. If you want to keep data in this database, back it up before you uninstall. In a db2cmd command window enter `db2 list db directory`. If IKF appears in the returned list of databases, the information mining database exists. In the DB2 Command Window, type `db2 backup database IKF to <dir>` where <dir> is a directory of your choice.

Planning workflow

In Version 8.1 workflow is not a selectable feature.

Workflow samples and APIs are installed when you select the Connector toolkit and samples component and also select the Federated Connector option.

The workflow builder is installed with the administration client and the workflow functionality is administered through the administration client.

Planning information mining installation

The Information Mining server is always located on the workstation where the administration database is located. If you want to access the Information Mining feature from other workstations (especially if you have installed the Information Structuring Tool on a different workstation), you must configure a RMI connection.

Chapter 3. Enterprise Information Portal hardware and software requirements

This section describes the hardware and software required to install EIP components on Windows, AIX, and Solaris operating systems.

Important

See the README for the latest version requirements of prerequisite software, including related update or fixpack levels.

Windows server requirements

This section describes the hardware and software required to install Enterprise Information Portal components on Windows servers.

Hardware requirements

The EIP installation program on Windows servers organizes installable components by machine type. The machine types are Client, Server, and Development Workstation.

Client You can install the connectors, features, content viewer and information center. **Restriction:** This machine type does not include a client.

Server You can install the administration client and database, connectors, features, viewer, and information center.

Development Workstation

You can install all EIP components plus the connector toolkit and samples.

Table 5 on page 22 lists the hardware required to configure a Windows workstation by machine type. Table 6 on page 22 describes the software prerequisites for components on a Windows operating system.

Table 5. EIP machine type hardware requirements - Windows

Machine type	Processor		RAM		Disk space
	Minimum	Recommended	Minimum	Recommended	
Client	Intel Pentium II 200	Intel Pentium III 400	128 MB	256 MB	<ul style="list-style-type: none"> • 100 MB swap space • 210 MB install space* • 30 MB temp space
Server	Intel Pentium II 600	Intel Pentium III 800	512 MB	1024 MB	<ul style="list-style-type: none"> • 1 GB swap space • 400 MB install space* • 10 MB temp space
Development workstation	Intel Pentium II 300	Intel Pentium III 500	128 MB	256 MB	<ul style="list-style-type: none"> • 120 MB swap space • 290 MB install space* • 10 MB temp space

*Information center requires 150 MB disk space.

Table 6. EIP component software requirements - Windows

Component	Software prerequisites	Notes
Administration database	<ul style="list-style-type: none"> • DB2 Universal Database, Version 7.2 or later • Microsoft Visual C++, Version 6.0 • DB2 Application Development client 	If you plan to use workflow, you must install an administration database on the same server where you install DB2, MQSeries and MQSeries workflow.

Table 6. EIP component software requirements - Windows (continued)

Component	Software prerequisites	Notes
Administration client	Windows XP, NT or 2000	If you connect to remote databases, you must install DB2 Client Configuration Application on the same workstation where you install the administration client.
Federated connector	<ul style="list-style-type: none"> • DB2 Universal Database, Version 7.2 or later • Java Development Kit, Version 1.3 	
Relational database connector	<ul style="list-style-type: none"> • DB2 Universal Database Version 7.2 or later • JDBC driver 1.3 (Java only) • ODBC 3.0 (C++ only) • DataJoiner 2.1.1 	
Information catalog connector	<ul style="list-style-type: none"> • DB2 Universal Database, Version 7.2 or later • JDBC driver 1.3 (Java only) • ODBC 3.0 (C++ only) • DataJoiner 2.1.1 	
Information center	<ul style="list-style-type: none"> • Internet Explorer Version 5 or higher • Netscape Version 4.5, 4.6 or 4.7 	<ul style="list-style-type: none"> • The Information Center requires at least 150 MB disk space. • The EIP Information Center is not compatible with Netscape Version 6.0 or later.

Table 6. EIP component software requirements - Windows (continued)

Component	Software prerequisites	Notes
Workflow	<ul style="list-style-type: none"> • MQSeries Version 5.2 Server • MQSeries Workflow Server Version 3.3.2 or later • Internet Explorer Version 5.0 or later • DB2 Universal Database Version 7.2 or later • For C++, MQSeries Version 5.2 client and MQSeries Workflow V3.3.2 client are required to run client-side applications. See the MQSeries and MQSeries Workflow documentation for details. 	<p>Note: Workflow is automatically installed when you select the administration database component. The MQSeries Server and MQSeries Workflow server are required on the server where you install the administration database.</p>
Information mining	<ul style="list-style-type: none"> • DB2 Universal Database, Version 7.2 or later • Java Runtime Environment (JRE), Version 1.3 • Federated connector • DB2 Text Information Extender 7.2 • DB2 UDB Developer's kit • WebSphere Application Server Version 4.0.3 with the latest fixpack • Microsoft Visual C++ Version 6.0 • IBM Web Crawler 	<p>DB2 UDB, DB2 Text Information Extender and the federated connector are included. IBM WebSphere is included. IBM Web Crawler is a subcomponent that you can select from the Features component.</p>
IBM Web Crawler	Netscape 5.0 or higher	
Text search	<ul style="list-style-type: none"> • Content Manager for Multiplatforms Version 7.1 • Text Search Server Release 6 	

Table 6. EIP component software requirements - Windows (continued)

Component	Software prerequisites	Notes
Web samples (for Information Mining)	<ul style="list-style-type: none"> WebSphere Application Server Version 4.0.3 or later Java 2 Software Developer's Kit Standard Edition, Version 1.3, with the latest service pack 	Recommended: WebSphere Application Server Version 4.0.3 Advanced Edition. See the WebSphere documentation for information about WebSphere hardware and software prerequisites.
Connector toolkit and samples	<ul style="list-style-type: none"> Microsoft® Visual C++ Version 6.0 for application development using C++ connector APIs Java Development Kit Standard Edition, with the latest fixpack. 	
LDAP	IBM Directory server 4.1	

Windows operating system requirements for all machine types

- Windows NT 4.0 server with Service Pack 6 or higher
- Windows XP
- Windows 2000 Server or Advanced Server

Miscellaneous requirements for all machine types

- Mouse
- CD-ROM
- Network adapter (not required on standalone server)
- SVGA 1024 x 768 6,5336 colors, 24-bit true color
- Frames-capable browser (Netscape 4.7 or later; Microsoft Internet Explorer 4.0 or later)

AIX hardware and software requirements

This section describes the hardware and software required to install components on AIX workstations.

AIX hardware requirements

Server IBM RS/6000

RAM 512 MB

Storage

4 GB for installed product and data storage, depending on workload

Display and adapter

VGA (256-color mode)

Other requirements

- CD-ROM drive (for installation only), network adapter (if you install components on multiple workstations).
- The Information Center requires 300 MB disk space.

AIX software requirements

The installation program checks prerequisites before launching.

- Operating system:
 - AIX 4.3.3 and the latest service pack (must include TCP/IP and Unicode converter) or
 - AIX 5.1 or later
- TCP/IP network communication.
- C, C++ compiler; IBM VisualAge Version 5 or later.
- The text search and image search clients require C/C++ ibmcxx Level 3.6.6.1 or later.
- Java Developer's Kit/Java Runtime Environment Version 1.3 with latest service pack.
- Java Servlet Developer's Kit Version 2.2 or later.
- Netscape Navigator Version 4.75 or later.
- DB2 UDB Version 7.2 with fixpack 5 or later.
- WebSphere Version 4.0.3 or later and the latest service pack.

Software requirements for components (AIX)

Table 7 lists the software required to support Enterprise Information Portal components on AIX.

Table 7. Software requirements for components on AIX platforms

Component	Software prerequisites (minimum)	Notes
Administration database	<ul style="list-style-type: none">• DB2 Universal Database, Version 7.2 or later• DB2 Application Development client	If you plan to use workflow, you must install an administration database on the same server where you install DB2, MQSeries Server and MQSeries workflow.

Table 7. Software requirements for components on AIX platforms (continued)

Component	Software prerequisites (minimum)	Notes
Federated connector	<ul style="list-style-type: none"> • DB2 Universal Database, Version 7.2 or later • Java Software Developer's Kit, Version 1.3 	
Relational database connector	<ul style="list-style-type: none"> • DB2 UDB Version 7.2 or later • Java Database Connect (JDBC) driver Version 1.3 with latest service pack (Java only) • ODBC Version 3.0 (C++ only) • DataJoiner Version 2.1.1 	
Information catalog connector	DB2 UDB Visual Warehouse Version 5.2	Recommended: DB2 Universal Database Version 7.2.
Workflow	<ul style="list-style-type: none"> • MQSeries Version 5.2 Server with latest CSD • MQSeries Workflow Server Version 3.3.2 or later • Internet Explorer Version 5.0 or later • DB2 Universal Database Version 7.2 	
Information mining	<ul style="list-style-type: none"> • DB2 UDB Version 7.2 or later • DB2 UDB Developer's Kit • DB2 Text Information Extender 7.2 • Java Runtime Environment (JRE), Version 1.3 • Federated connector • WebSphere Application Server Version 4.0.3 • IBM Visual Age C, C++ compiler Version 5 • IBM Web Crawler 	DB2 UDB, DB2 TIE, IBM Web Crawler, and WebSphere are included.
Text search	<ul style="list-style-type: none"> • Text Search Server Release 6 • Content Manager Version 7.1 connector 	

Table 7. Software requirements for components on AIX platforms (continued)

Component	Software prerequisites (minimum)	Notes
Web samples for information mining	<ul style="list-style-type: none"> WebSphere Application Server (WAS) Version 4.0.3 Advanced Edition or Advanced Single Server Edition Java 2 Software Developer's Kit Standard Edition, Version 1.3, with the latest service pack 	<p>Recommended: WebSphere Application Server Version 4.0.3 Advanced Edition.</p> <p>Recommendation: See the WebSphere documentation for information about WebSphere hardware and software prerequisites.</p>
Information Center	Netscape Version 4.5, 4.6 or 4.7	<ul style="list-style-type: none"> The Information Center requires at least 300 MB disk space for AIX. The EIP Information Center is not compatible with Netscape Version 6.0 or later.
Connector toolkit and samples	<ul style="list-style-type: none"> IBM Visual Age C++ Compiler, Version 5.0 for application development using the C++ connector APIs Java Development Kit, Version 1.3, with the latest fixpack 	There are no visual beans available for AIX.
LDAP	IBM Directory server 4.1	

RMI server requirements

This section describes the hardware and software required to configure a Windows, AIX or Solaris system as an RMI server.

RMI server hardware requirements

Table 8 on page 29 identifies the hardware required to configure an RMI server on either Windows, AIX or Solaris.

Table 8. RMI hardware requirements

	Windows		AIX or Solaris		Notes
	Minimum	Recommended	Minimum	Recommended	
Processor	Intel Pentium II 500		300 MHz IBM RS/6000 or equivalent	600 MHz IBM RS/6000 or equivalent	Consider using a faster processor, or multiple processors, depending on workload.
RAM	256 MB	512 MB	128 MB	256 MB or greater	
Storage	<ul style="list-style-type: none"> • 250 MB swap space • 100 MB install space • 10 MB temporary space per user • Total: 350 MB install space and 10 MB unused disk space per user 	same	<ul style="list-style-type: none"> • 100 MB install space • 50 MB temporary space per user • Total: 150 MB unused disk space per user 	same	

RMI server software requirements

Operating system

Windows NT with Service Pack 6 or later, or Windows 2000 (Server, Advanced Server), or AIX 4.3.3 or AIX 5.1 or later

Network support

Microsoft Networking Services or AIX Services

Frames-capable Web browser

Netscape 4.7 or higher or Microsoft Internet Explorer 5.0 or higher

Solaris hardware and software requirements

This section describes the hardware and software required to install EIP components on Solaris systems.

Solaris hardware requirements

Server Sun Enterprise 250 or better

RAM 1 GB

Storage

4 GB for installed product and data storage, depending on workload

Display and adapter

VGA (256-color mode)

Other requirements

CD-ROM or DVD drive (for installation only)

Solaris server software requirements

The installation program checks prerequisites before launching.

- Operating system: Sun Solaris Version 2.8 with patch level 108528-08 or later
- Network communication: TCP/IP
- Java Developer's Kit/Java Runtime Environment Version 1.3 (IBM version)
- Java Plug-ins Version 1.3.1 or later
- Netscape Navigator Version 4.75i or later
- DB2 Universal Database Version 7.2 with Application Development Client
- Sun Forte C and C++ Enterprise Edition 6 update 1. - required for Information Mining and the federated connector.

Solaris software requirements for components

Table 9 lists the software required to support Enterprise Information Portal components on Sun Solaris.

Table 9. Software requirements for components on Solaris operating systems

Component	Software prerequisites	Notes
Administration database	<ul style="list-style-type: none">• DB2 Universal Database, Version 7.2 or later• DB2 Application Development client	

Table 9. Software requirements for components on Solaris operating systems (continued)

Component	Software prerequisites	Notes
Federated connector	<ul style="list-style-type: none"> • SUN Forte C and C++ compiler, Enterprise Edition 6 • DB2 UDB Connect Version 7.2 or later • Java Development Kit, Version 1.3 	
Relational database connector	<ul style="list-style-type: none"> • DB2 UDB Version 7.2 or later • Java Database Connect (JDBC) driver Version 1.3 (Java only) • ODBC Version 3.0 (C++ only) • DataJoiner Version 2.1.1 	
Information catalog connector	DB2 UDB Visual Warehouse Version 5.2	Recommended: DB2 UDB Version 7.2 (included)
Workflow	<ul style="list-style-type: none"> • MQSeries Version 5.2 Server • MQSeries Workflow Version 3.3.2 or later • Internet Explorer Version 5.0 • DB2 Universal Database Version 7.2 	
Information mining	<ul style="list-style-type: none"> • DB2 UDB Version 7.2 or later • DB2 UDB Developer's Kit • DB2 Text Information Extender 7.2 • Java 2 JRE Standard Edition, Version 1.3, local or remote • Federated connector • WebSphere Application Server Version 4.0.3 with latest fixpack • SUN Forte C and C++ compiler, Enterprise Edition 6 • IBM Web Crawler 	
Text search	<ul style="list-style-type: none"> • Text Search Server Release 6 • Content Manager Version 7.1 connector 	

Table 9. Software requirements for components on Solaris operating systems (continued)

Component	Software prerequisites	Notes
Web samples for information mining	<ul style="list-style-type: none"> • WebSphere Application Server Version 4.0.3 with latest fixpack • Java 2 Software Developer's Kit Standard Edition, Version 1.3, with the latest service pack 	
Connector toolkit and samples	<ul style="list-style-type: none"> • Java Development Kit, Version 1.3, with latest fixpack. 	
Information Center	Netscape Version 4.5, 4.6 or 4.7	<ul style="list-style-type: none"> • The Information Center requires at least 300 MB disk space. • The EIP Information Center is not compatible with Netscape Version 6.0 or later.
LDAP	IBM Directory server 4.1	

Chapter 4. Installing prerequisites

This section explains how to install the prerequisite software on Windows, AIX and Solaris. The prerequisites are:

- DB2 Universal Database
- DB2 Text Information Extender
- WebSphere Application Server
- MQSeries

Prerequisite software

This section describes how to install the prerequisite software. See the DB2 Universal Database, WebSphere and MQSeries product documentation for detailed information about prerequisites, installation, verification, and troubleshooting assistance.

DB2 Universal Database™ Enterprise Edition Version 7.2

Provides the database functionality for the EIP databases. DB2 Universal Database Version 7.2 includes all the components required to install and administer the administration database. Text Information Extender (TIE), which is required for Information Mining, is installed separately and uses SQL to provide search functionality.

DB2 Client Configuration Assistant (DB2 CCA)

If your plans include installing databases on Windows servers where you do not install a client, or on AIX or Solaris, you must install DB2 CCA on client workstations that does not already have DB2 Universal Database. DB2 CCA is installed when you install DB2 Universal Database. DB2 CCA allows administrations clients to add a remote database.

WebSphere Application Server Standard Edition Version 4.0 (WAS)

Provides the Web server functionality required by information mining.

DB2 Text Information Extender

This program is required for EIP Information Mining.

MQSeries Server and MQSeries Workflow Server

Provides the communication required by the MQSeries workflow product. You install one instance of MQSeries Workflow for the Enterprise Information Portal system. Provides the functionality that supports EIP workflow. You must install MQSeries Server on a

workstation where you install DB2 and only one EIP administration database. The MQSeries workflow server database and the EIP database share information.

Installing DB2 Universal Database

This section explains how to install DB2 Universal Database Version 7.2 on Windows, AIX, and Solaris.

Installing DB2 Universal Database for Windows

This section explains how to install the DB2 Enterprise Edition Universal Database on Windows. **Requirement:** You must select the Typical version and the DB2 Application Development client to install all DB2 components and features required by EIP. **Requirement:** You must specify **Create Database Links** for the Application Development Client.

Installing DB2 Universal Database and DB2 Application Development Client

1. Ensure that your server meets all of the prerequisites and conditions needed to install DB2 Universal Database Version 7. To learn more about DB2 prerequisites, insert the DB2 installation CD and click Installation Prerequisites from the DB2 Launchpad.
2. Log in to the system with the user account that allows you to perform the installation. For information about DB2 and user accounts, see “Planning user IDs and passwords before you install DB2 Universal Database” on page 13.
3. Shut down any other programs so that the installation program can update files as required.
4. Insert the DB2 installation CD-ROM into the drive. The auto-run feature starts the installation program. The installation program determines the system language and launches the installation program for that language. To run the installation program in a different language, or if the installation program did not autostart:
 - a. Click **Start** → **Run**
 - b. In the **Open** field, enter `\\x\setup /i language` where x represents your CD-ROM drive and language represents the code for your language (for example, EN for English).
 - c. Click **OK**.
5. The DB2 Launchpad opens. Click **Install** to launch the installation program.
6. Click **Next** to accept the DB2 License Agreement.
7. Click **Typical** and **Application Development Client** to install all DB2 components required to support EIP.

8. Follow the prompts to complete the installation. Click **Help** or press F1 to access the online help available from each Installation window. Click **Cancel** to stop the installation.

Installing DB2 Universal Database for AIX

This section explains how to install DB2 Universal Database on AIX using db2setup utility or SMIT.

Installing DB2 for AIX using the db2setup utility

The db2setup utility can perform all of the tasks required to install DB2. If you prefer not to use the db2setup utility, see “Installing DB2 for AIX using SMIT” on page 36.

To install DB2 on AIX using the db2setup utility:

1. Log in as a user with root authority.
2. Insert and mount your DB2 product CD-ROM.
3. Change to the directory where the CD-ROM is mounted by entering the **cd/cdrom** command where **cdrom** is the mount point of your product CD-ROM.
4. Enter **./db2setup** The DB2 Setup Utility window opens.
5. Select **Install** and press Enter. The Install DB2 V7 window opens.
6. Select the products you want and are licensed to install. Press **Tab** to move between available options and fields. Press **enter** to select or deselect an option. Selected options are denoted by an asterisk.

When you select to install a DB2 product, you can choose the product’s **Customize** option to view and change the optional components that will be installed.

When installation is complete, DB2 software is installed in the `/usr/lpp/db2_07_01` directory.

If you did not install the DB2 tools, you can verify the installation by creating and connecting to the `SAMPLE` database.

You can use the db2setup utility at any time to set up an existing instance, create another instance, create an administration server, or install additional DB2 products or components. Log in as a user with root authority and run the `./db2setup` command from your DB2 product CD-ROM.

If you are installing DB2 Enterprise Edition for AIX, and want to use your database server as a DB2 control server, you must select and install the Control Server component as part of the installation. This component is not selected by default. After installing DB2, you must create the `DB2CTLSV` instance and the `SATCTLDB` database. For the memory, disk, and software

requirements for the COntrol Server component and for information about creating the DB2CTLSV instance and the SATCTLDB database, see the DB2 online reference.

Installing DB2 for AIX using SMIT

If you do not use the `thedb2setup` utility, you can install DB2 manually using AIX's System Management Interface Tool (SMIT).

With SMIT, you can install a software bundle or you can install a subset of DB2 products and filesets. Installing DB2 using the software bundle feature is easier than installing individual filesets because selecting a single bundle eliminates the need to select all of the required filesets from a long list.

To install DB2 using the SMIT software bundle feature:

1. Log in as a user with root authority.
2. Insert and mount the appropriate CD-ROM.
3. Enter the `smit` command.
4. Select **Software Installation and Maintenance** → **Install and Update Software** → **Install Software Bundle (Easy Install)**.
5. Specify the input device or directory for the installation media, or click **List** to display all input devices or directories.
6. Select the CD-ROM drive you mounted, then press **Enter**.
7. Select the bundle you want to install and press **Enter**. The **Install Software Bundle** window appears.
8. Review the bundle installation parameters. In particular, make sure that **COMMIT software updates** and **AUTOMATICALLY install requisite software** are set to **yes**. Click **OK** again to begin installation.
9. If you did not install the DB2 Media-Defined software bundle on this system, use the following steps to install the bundle:
 - a. In the **Bundle to Install** menu, select the **Media-Defined** option, then press **enter**.
 - b. In the **Install Bundle Contents** menu, press **Enter** to continue with the installation. Messages may appear to indicate the status of the installation. Press **enter** to continue.
 - c. Press **F3** to return to the **Install Bundle Contents** menu.
 - d. Press **F4** to redisplay the list of software bundles. Select the bundle you want to install and press **Enter** to begin the installation process. DB2 will be installed in `/usr/lpp/db2_07_01/`.

Repeat the steps in this section to install software bundles on other machines.

Tip: When you install DB2 using the software bundle feature, the DB2 Product Library (HTML) filesets are not automatically installed. Also, the DB2

Product Messages, other than in English, are not installed. You must install these filesets separately using the following method.

To install a subset of DB2 products or filesets using SMIT:

1. Log in as user with root authority.
2. Insert and mount the appropriate CD-ROM.
3. Enter the `smit install_latest` command.
4. Specify the INPUT device/directory for DB2 and press Enter.
For example, if `/cdrom` is the CD-ROM mount directory, enter `/cdrom/db2` as the INPUT device.
5. Press **F4** to display a list of software to install.
6. Press **F7** to mark one or more filesets for installation. If you are installing a non-English DB2 Product Library (HTML) fileset, the English DB2 Product Documentation (HTML) fileset will also be installed automatically.
7. Press Enter to install the selected filesets. DB2 is installed in `/usr/lpp/db2_07_01/`.
8. Press **F10** to exit when the command displays OK.

Repeat the steps in this section to install subsets of DB2 products or filesets on other machines.

If you installed a DB2 Product Library (HTML) fileset, you must run the `/usr/lpp/db2_07_01/doc/db2insthtml locale` command to uncompress and untar the HTML documentation, where *locale* represents the language identifier of the installed fileset. If you installed any non-English DB2 Product Library filesets, run this command for the English fileset first, then re-run this command for every installed non-English fileset locale. To recover disk space, you may want to remove the compressed tar files and product library filesets after installation. You will still be able to view the HTML books after the compressed tar files and filesets have been removed.

If you did not install the DB2 tools, you can verify the installation by creating and connecting to the SAMPLE database.

After installing DB2 using SMIT, create group and user IDs for the instance owner, administration server, Fenced User Defined Functions (UDFs) and stored procedures. Once you define these IDs, you can:

- create an instance
- create the administration server
- install the license key
- create links for your DB2 files

Creating group and user IDs for the instance owner, administration server, and UDFs

Create group and user IDs for the instance owner, Administration Server, and UDFs and stored procedures. To use existing user or group IDs, you can skip to “Creating an instance” on page 39.

To create a group and user ID for the instance owner:

1. Log in as a user with root authority.
2. Enter the following command to make a new group: `mkgroup ed=999 dbadmin1` where *999* represents the group ID and *dbadmin1* represents the group name. This new group is the SYSADM group for the instance.
3. Enter the following command to make a new user: `mkuser id=1004 pgrp=dbadmin1 groups=dbadmin1 home=/home/db2inst1 db2inst1 passwd db2inst1` where *1004* represents the user ID, *dbadmin1* represents the group you created in the previous step, */home/dbinst1* represents the user’s home directory, and *dbinst1* represents the username that is also the instance name.

Use a unique user ID for each instance you create to allow easier recovery if a system error occurs.

To create group and user IDs for the Administration Server follow the same steps you used to create IDs for the instance owner. You must use different user IDs for the Administration Server and instance owner. For security reasons, use a different group ID for the administration server and instance owner.

To create group and user IDs for UDFs and stored procedures, follow the same steps you used to create IDs for the instance owner. For security reasons, we recommend that you use different user IDs for the UDFs and the instance owner. You will be asked to supply a UDF user ID when you create a DB2 instance.

Creating the Administration Server

The Administration Server provides services to support tools that automate the configuration of connections to DB2 databases. The Administration Server also supports tools that administer DB2 from your server system or a remote client using the Control Center.

To create the Administration Server, use the `DB2DIR/instance/dasict ASNAME` command, where *DB2DIR*

- = `/usr/lpp/db2_07_01` on AIX
- = `/opt/IBMd2/V7.1` HP-UX, PTX, SGI IRIX
- = `/usr/IBMd2/V7.1` on Linux or Solaris

and *ASName* represents the name of the administration server you want to create.

Creating an instance

A DB2 instance is an environment in which you store data and run applications. Use the command to create an instance. You must have root authority to enter this command. For more information about database instances, see the DB2 online reference.

The `db2icrt` command runs with the following parameters:

`DB2dir/instance/db2icrt-a AuthType -u FencedID InstName` where:

- `DB2Dir` represents your DB2 installation directory where `DB2DIR`
 - = `/usr/lpp/db2_07_01` on AIX
 - = `/opt/IBMdb2/V7.10` on HP-UX, PTX, SGI IRIX
 - = `/usr/IBMdb2/V7.1` on Linux or Solaris
- `-a AuthType` represents the authentication type for the instance. *AuthType* can be one of `SERVER`, `CLIEHT`, `DCS`, `DCE`, `SERVER_ENCRYPT`, `DCS_ENCRYPT`, or `DCE_SERVER_ENCRYPT`.
- `-u FencedID` represents the name of the user under which UDFs and fenced stored procedures will run. **Tip:** This flag is not required if you are creating an instance on a DB2 client.
- *InstName* represents the name of the instance.

Updating the license key

Read *Your Proof of Entitlement* and the *License Information* booklet to identify the products for which you are licensed.

The license file names are:

- `db2udbee.lic` is the DB2 Universal Database Enterprise Edition
- `db2cone.lic` is the DB2 Connect Enterprise Edition
- `db2udbwe.lic` is the DB2 Universal Database Workgroup Edition
- `db2d1m.lic` is the DB2 Universal Database Data Links Manager
- `db2udbeee.lic` is the DB2 Universal Database Enterprise - Extended Edition
- `db2udbwm.lic` is the DB2 Warehouse Manager
- `db2re1c.lic` is the DB2 Relational Connect

To update your DB2 product license key:

1. Log in as a user with root authority.
2. Update your DB2 product license with the following command:
`/usr/lpp/db2_07_01/adm/db2licm -a filename` where *filename* is the full

path name and file name for the license file that corresponds to the product you have purchased. The DB2 product license key is added to the `/var/ibm/db2lic` file.

For example, if the CD-ROM is mounted in the `/cdrom` directory, and the name of the license file is `db2dlm.lic`, you would enter:

```
/usr/lpp/db2_07_01/adm/db2licm -a /cdrom/db2/license/db2dlm.lic
```

Creating links for DB2 files

You can create links for the DB2 files to the `/usr/lib` directory, and for the include files to the `/usr/include` directory for a particular version and release level of the product.

You might want to create these links if you are developing or running applications and want to avoid having to specify the full path to the product libraries and include files.

To create links for DB2 files, log in as a user with root authority and run the `/usr/lpp/db2_07_01/cfg/db2ln` command. If there are existing links to the `/usr/lib` and `/usr/include` directories from previous versions of DB2, they will automatically be removed by entering the `db2ln` command to create links for this version of DB2. If you want to re-establish the links to the libraries of previous versions, then you must execute the `db2rmln` command from your previous version of DB2 before you execute the `db2ln` command from the previous version of DB2. Links can be established for only one version of DB2 on a given system.

After manually installing DB2 you *must* configure your instances and Administration Server to accept client connections. For more information, see the DB2 online reference.

Installing DB2 Text Information Extender

1. Insert the DB2 Universal Database installation CD-ROM in the server CD-ROM drive.
2. Follow program prompts to complete installation.

Installing DB2 for Solaris

The following sections describe how to install DB2 using the `db2setup` utility or the `db2_install` and `pkgadd` commands.

Before you install DB2 on Solaris

Before installing your DB2 for Solaris using either the `db2setup` utility or the `db2_install` and `pkgadd` commands, you might need to update kernel configuration parameters. Table 10 on page 41 describes the recommended Solaris kernel configuration parameters. You must reboot your machine after updating any kernel configuration parameters.

Table 10. Recommended values for Solaris kernel configuration parameters

Kernel parameter	Physical memory			
	64 MB to 128 MB	128 MB to 256 MB	256MB to 512MB	512MB +
msgsys:msginfo_msgmax	65535 ¹	655351	655351	655351
msgsys:msginfo_msgmnb	65535 ¹	655351	655351	655351
msgsys:msginfo_msgmap	130	258	258	258
msgsys:msginfo_msgmni	128	256	256	256
msgsys:msginfo_msgssz	16	16	16	16
msgsys:msginfo_msgtql	256	512	1024	1024
msgsys:msginfo_msgseg	8192	16384	327671	327672
shmsys:shminfo_shmmax	67108864	1342177282	2684354563	5368709123
shmsys:shminfo_shmseg	50	50	50	50
shmsys:shminfo_shmmni	300	300	300	300
semsys:seminfo_semni	128	256	512	1024
semsys:seminfo_semmmap	130	258	514	1026
semsys:seminfo_semmns	256	512	1024	2048
semsys:seminfo_semmnu	256	512	1024	2048
semsys:seminfo_semume	50	50	50	50

¹ The msgsys:msginfo_msgmnb and msgsys:msginfo_msgmax must be set to 65535 or higher.

² The msgsys:msgsem parameter must be set no higher than 32767.

³ Set the shmsys:shminfo_shmmax parameters to the suggested value , or 90% of the physical memory (in bytes), whichever is higher. For example, if you have 196 MB of physical memory in your system, set shmsys:shminfo_shmmax to 184968806 (196*1024*1024*0.9).

To set a kernel parameter, add a line at the end of the /etc/system file as follows: `set parameter_name = value`

For example, to set the value `msgsys:msginfo_msgmax` parameter, add the following lines to the end of the /etc/system file: `set msgsys:msginfo_msgmax = 65535`

The /opt/IBMDB2/V7.1/cfg directory provides sample files for updating the kernel configuration parameters or on your DB2 product CD-ROM in the /db2/install/samples directory. The file names are:

- kernel.param.64MB for systems with 64MB-128MB of physical memory
- kernel.param.128MB for systems with 128MB-256MB of physical memory
- kernel.param.256MB for systems with 256MB-512MB of physical memory
- kernel.param.512MB for systems with 512MB-1GB of physical memory

Depending upon the amount of physical memory in your system, append the appropriate kernel configuration parameter file to the `/etc/system` file. If necessary, change the value of the `shmsys:shminfo_shmmax` parameter as described in Table 10 on page 41, Note 2.

After you updating the `/etc/system` file, reboot the system.

Installing DB2 for Solaris using the `db2setup` utility

After you updating your Solaris kernel configuration parameters, you can install DB2. The `db2setup` utility is the recommended method for installing DB2 for Solaris. The utility can perform all of the tasks required to install DB2. If you prefer not to use the `db2setup` utility, see “Manually installing DB2 for Solaris” on page 43.

To install DB2 for Solaris using the `db2setup` utility:

1. Log in as a user with root authority.
2. Insert and mount your DB2 product CD-ROM.
3. Change to the directory where the CD-ROM is mounted by entering the `cd /cdrom` command where `cdrom` is the mount point of your product CD-ROM.
4. Enter the `./db2setup` command. The DB2 Setup Utility window opens.
5. Select **Install** and press Enter. The Install DB2 V7 window opens.
6. Select the products you want and are licensed to install. Use the tab key to move between available options and fields. Press **Enter** to select or deselect an option. Selected options have an asterisk.

When you install a DB2 product, you can choose the **Customize** option to view and change the components that will be installed.

Click **OK** to continue the installation process or **Cancel** to go back to a previous window. Click **Help** for more information or for assistance during the installation of any DB2 product.

When installation is complete, the DB2 software is installed in `/opt/IBMDB2/V7.1/`.

If you did not install the DB2 tools, you can verify the installation by creating and connecting to the `SAMPLE` database.

You can use the `db2setup` utility at any time to create another instance, create an Administration Server, or install additional DB2 products or components. Log in as a user with root authority and run the `./db2setup` command from your DB2 product CD-ROM.

Manually installing DB2 for Solaris

If you prefer not to use the `db2setup` utility, you can install DB2 products and filesets manually using the `db2_install` and `pkgadd` commands. Before you install DB2, update your system's kernel configuration parameters (see Table 10 on page 41).

To install your DB2 for Solaris product using the `db2_install` command:

1. Log in as a user with root authority.
2. Insert and mount the appropriate CD-ROM.
3. If the Volume Manager is *not* running on your system, enter the following commands to mount the CD-ROM:

```
mkdir -p /cdrom/unnjamed_cdrom
```

```
mount -F hsfs -o ro /dev/dsk/c0t6d0s2 /cdrom/unnamed_cdrom
```

where `/cdrom/unnamed_cdrom` represents the CD-ROM mount directory, and `/dev/dsk/c0t6d0s2` represents the CD-ROM drive device.

Requirement: If you are mounting the CD-ROM drive from a remote system using NFS, the CDROM file system on the remote machine must be exported with root access. You must also mount that file system with root access on the local machine. If the Volume Manager (`volm`) is running on your system, the CD-ROM is automatically mounted as `/cdrom/unnamed_cdrom`

4. Run the `db2_install` command: `/cdrom/unnamed_cdrom/db2_install`

The `db2_install` command lists product keywords and prompts for the base directory prompts where the product fields are to be installed. The products are listed by keyword and product description.

DB2.EENT DB2 Universal Database Enterprise-Extended Edition for Solaris

DB2.ENTP DB2 Universal Database Enterprise Edition for Solaris

DB2.CENT DB2 Connect Enterprise Edition for Solaris

DB2.WKGP DB2 Universal Database Workgroup Edition for Solaris

DB2.CAE DB2 Universal Database Administration Client

DB2.RCAE DB2 Universal Database Run-Time Client

DB2.SDK DB2 Application Development Client

DB2.DQP DB2 Universal Database Query Patroller

NetQ IBM NetQuestion HTML Search System

The command displays: Specify one or more of the keywords separated by spaces.

5. Type the product keyword(s).
6. Type the name of the base directory when prompted. The default base directory is `/opt`.
7. Enter Yes to start the DB2 product installation.

If you did not install the DB2 tools, verify the installation by creating and connecting to the SAMPLE database.

Installing the DB2 for Solaris product library

To view DB2 product documents online, HTML versions of these documents are provided for installation. These documents are translated into several languages. However, not every manual in the DB2 product library is translated into multiple languages. The English version of every manual is available in HTML format. When you select a non-English HTML fileset without selecting the English version, the English HTML fileset is also installed.

A separate package exists for every language in which DB2 documents are translated. Packages for DB2 documentation are given names such as `db2ht%L71`, where %L represents two letters for the language and locale identifier.

For example, the package name for the DB2 Product Library in English is `db2hten71`.

To install the DB2 Product Library (HTML) package:

1. Log in as a user with root authority.
2. Insert and mount the appropriate CD-ROM.
3. Run the `pkgadd -d /cdrom/unnamed_cdrom/db2 db2hten71` command.

The command installs the compressed-tar files for the DB2 documents in the `/opt/IBMdb2/V7.1/doc/locale/html` directory, where *locale* is the language identifier.

4. To uncompress and untar the HTML files:
`/opt/IBMdb2/V7.1/doc/db2insthtml lang` where *lang* represents the locale identifier. For example, the locale for English is `en_US`.

To recover disk space, you can remove the compressed tar files and product library filesets after installation. You can view the HTML books after the compressed tar files and filesets have been removed.

Installing DB2 for Solaris product messages

A separate package exists for every locale in which DB2 product messages are translated. Packages for DB2 Product Messages are given names such as `db2ms%L71`, where %L represents two letters for the language name. For example, the package name for the DB2 Product Messages in the de (German) locale is `db2msde71`.

To install DB2 Product Message packages using the `pkgadd` command:

1. Log in as a user with root authority.
2. Insert and mount the appropriate CD-ROM.

3. Run the `pkgadd` command as follows: `pkgadd -d cdrom-dir/db2 pkgname` where *cdrom-dir* represents the CD-ROM mount directory and *pkgname* is the package name.

For example, to install the DB2 Product Messages in the de (German) locale, type `pkgadd -d /cdrom/unnamed_cdrom/db2 db2msde71`.

DB2 for Solaris post-installation tasks (manual install only)

After manually installing your DB2 product, create a group and user IDs for the instance owner, Administration Server, and fenced user defined functions (UDFs) and stored procedures. Once you set up these IDs you can create an instance, create the Administration Server, install the License key, and create links for your DB2 files.

You do not have to perform these tasks if you used the `db2setup` utility to install DB2.

Creating group and user IDs for the instance owner, Administration Server, and UDFs

You should create group and user IDs for the instance owner, Administration Server, and UDFs and stored procedures. If you want to use existing user or group IDs, you can skip this section and proceed to creating an instance.

To create a group and user ID for the instance owner:

1. Log in as a user with root authority.
2. Enter the following command to make a new user:

```
useradd -g dbadmin1 -u 1004 -d /export/home/db2inst1 passwd db2inst1
```

where *dbadmin1* represents the group you created in the previous step, *1004* represents the user ID, */export/home/db2inst1* represents the user's home directory, and *db2inst1* represents the user name and instance name.

Use a unique user ID for each instance you create. This allows for easier error recovery if a system error occurs.

To create group and user IDs for the Administration Server, follow the same steps you used to create IDs for the instance owner. You must use different user IDs for the Administration Server and instance owner. For system security, use a different group ID for the Administration Server and instance owner.

To create group and user IDs for UDFs and stored procedures, follow the same steps you used to create IDs for the instance owner. For security reasons, use different user IDs for UDFs and the instance owner. You will be asked to supply a UDF user ID when you create a DB2 instance.

Creating an instance

A DB2 instance is an environment in which you store data and run applications. Use the `db2icrt` command to create an instance. You must have root authority to enter this command.

The `db2icrt` command is run with the following parameters:

`DB2DIR/instance/db2icrt -a AuthType -u FencedID InstName` where:

- *DB2DIR* represents your DB2 installation directory:
 - = `/usr/lpp/db2_07_01` on AIX
 - = `/opt/IBMDB2/V7.1` on -UX, PTX, SGI IRIX
 - = `/usr/IBMDB2/V7.1` on Linux, or Solaris
- `-a AuthType` represents the authentication type for the instance. `AuthType` can be one of:
 - SERVER
 - CLIENT
 - DCS
 - DCE
 - SERVER_ENCRYPT
 - DCS_ENCRYPT
 - DCE_SERVER_ENCRYPT
- `-u FencedID` represents the name of the user under which fenced user defined functions (UDFs) and fenced stored procedures will run. **Tip:** This flag is not required if you are creating an instance on a DB2 client.
- *InstName* represents the name of the instance.

Creating the administration server

The administration server provides services to support tools that automate the configuration of connections to DB2 databases. The administration server also supports tools that administer DB2 from your server system or a remote client using the Control Center. For more information on the administration server, see the DB2 online reference.

To create the administration server, type `DB2DIR/instance/dasircr ASName` where:

- *DB2DIR* represents your DB2 installation directory:
 - `/usr/lpp/db2_07_01` on AIX
 - = `/opt/IBMDB2/V7.1` on HP-UX, PTX, SGI IRIX
 - = `/usr/IBMDB2/V7.1` on Linux or Solaris
- *ASName* represents the administration server you want to create.

Updating the license key

Your *Proof of Entitlement* and the *License Information* booklet identify the products for which you are licensed.

To update your DB2 product license key:

1. Log in as a user with root authority.
2. Update your DB2 produce license with the following command:
`/opt/IBMd2/V7.1/adb/db2licm -a filename` where filename represents the full pathname and filename for the license file that corresponds to the product you have purchased.

The DB2 product license key is added to the `/var/ibm/nodelock` file.

The names of the license files for these products are:

`db2udbee.lic` DB2 Universal Database Enterprise Edition

`db2udbee.lic` DB2 Universal Database Enterprise - Extended Edition

`db2cnee.lic` DB2 Connect Enterprise Edition

`db2udbwe.lic` DB2 Universal Database Workgroup Edition

3. `db2udbwm.lic` DB2 Warehouse Manager.

For example, if the CD-ROM is mounted in the `/cdrom` directory and the name of the license file is `db2udbee.lic`, enter:

```
/opt/IBMd2/V7.1/adm/db2licm -a /unnamed_cdrom/db2/license/db2udbee.lic
```

Creating links for DB2 files

You can create links for the DB2 files to the `/usr/lib` directory, and for the include files to the `/usr/include` directory for a particular version and release level of the product. You may want to create these links if you are developing or running applications and want to avoid having to specify the full path to the product libraries and include files.

To create links for DB2 files, log in as a user with root authority and run the `/opt/IBMd2/V7.1/cfg/db2ln` command. If there are existing links to the `/usr/lib` and `/usr/include` directories from previous versions of DB2, they will automatically be removed by entering the **db2ln** command to create links for this version of DB2. If you want to reestablish the links to the libraries of previous versions, then you must execute the **db2rmln** command from your previous version of DB2 before you execute the **db2ln** command from the previous versions of DB2. Links can be established for only one version of DB2 on a given system.

Installing DB2 Text Information Extender (TIE)

This section explains how to install DB2 Text Information Extender on Windows, AIX and Solaris servers.

Installing DB2 TIE on Windows

1. Use the setup.exe to transfer the files from the package to the target machine.
2. Reboot the system after data transfer.
3. Call db2text start to start the DB2 Text Information Extender update and locking services.

Requirement: For every DB2 instance, a NT service is created. Ensure that the *log on as user for DB2 services* is running as this account and not system account using your Windows user name.

Installing DB2 TIE on AIX

The DB2 Text Information Extender Version 7.2 for AIX can operate in a nonpartitioned database environment.

Install the DB2 TIE product components on AIX

1. Log in at the target machine as the root user.
2. Use installp to transfer the files from the Package to the target machine.

You can use the System Management Interface tool (SMIT) to run installp from a prompted interface, or you can enter the installp command.

To run smit:

1. Enter 'smit install_latest' to open the Software Installation and Maintenance Tool menu.
2. Enter the directory of the install file in the INPUT device /directory for software field.

```
/<cdrom>/aix
```

where <cdrom>is your cdrom drive path.

3. Click the DO button or press ENTER. This confirms the installation directory.
4. Identify in the SOFTWARE TO INSTALL field the DB2 Text Information Extender component to be installed.
5. Click the DO button, or press ENTER.
6. You are prompted for confirmation of the installation parameters. Toconfirm, press ENTER.
7. Logout.

Update the DB2 instance on AIX

To establish or update the DB2 instance:

1. Ensure you are active as the root user.
2. Type the following command:

```
cd /usr/lpp/db2_07_01/instance
```

3. Run db2iupdt as follows:

```
./db2iupdt <db2instance>
```

where <db2instance> is an existing DB2 instance user ID, where you would like to use Text Information Extender. **Tip:** New DB2 instances are automatically created for the Text Information Extender during db2icrt.

4. Logout.

Installing DB2 TIE on Solaris

The DB2 Text Information Extender Version 7.2 for AIX can operate in a nonpartitioned database environment.

Install the DB2 TIE components on Solaris

1. Log in at the target machine as the root user.
2. Install the Package. You install packages with the 'pkgadd' command.
pkgadd -d /<cdrom-dir>/solaris/db2tie72.pkg where <cdrom-dir> is your cdrom drive path. The list of available packages is displayed from which you can choose the db2tie72 package.

Update the DB2 instance on Solaris

To establish or update the DB2 instance:

1. Ensure you are active as the root user.
2. Type the following command:

```
cd /opt/IBMDB2/V7.1/instance
```

3. Run db2iupdt as follows:

```
./db2iupdt <db2instance>
```

where <db2instance> is an existing DB2 instance user ID, where you would like to use Text Information Extender. **Tip:** New DB2 instances are automatically created for the Text Information Extender during db2icrt.

4. Logout.

Starting and stopping DB2 Text Information Extender

Before you can index and search your documents, you have to start the DB2 Text Information Extender.

Logon to the DB2 instance owner user DI (UNIX systems only), then type db2text start.

Starting DB2 Text Information Extender

Logon to the DB2 instance owner user DI (UNIX systems only), then type db2text stop.

Installing WebSphere Application Server Advanced Single Server Edition

This section explains how to install WebSphere Application Server Advanced Single Server Edition (AES) on Windows, AIX and Solaris servers.

Installing Websphere Application Server AES on Windows

This section describes how to install WebSphere Application Server AES on Windows.

Before you install WebSphere Application Server AES on Windows

Install DB2 Universal Database on the server where you will install WebSphere AES. If you install WebSphere Application Server AES on a server without DB2, be sure you know the network path, URL, or other location information to the DB2 system where you want to install the WebSphere AES default database.

You must upgrade the default DB2JDBC Applet Server from 1.0 to 2.0. To upgrade JDBC on Windows servers:

1. Stop the DB2JDBC Applet Server Service.
2. Open a DB2 Command Window and change to
x:\Program Files\Sqllib\java12\dir.
3. Type: usejdbc2.bat.
4. Restart the DB2JDBC Applet Server Service.

Installing WebSphere Application Server AES

Be sure your server is configured to meet all of the specific WebSphere Application Server AES prerequisites and conditions. The WebSphere Information Center contains the prerequisites and conditions and it is located at: <http://www.ibm.com/software/webservers/appserv/library.html>

1. Log in to the workstation using the user ID and password that allow you to act as part of the operating system.
2. Insert the WebSphere Application Server AES CD into the server CD drive. If the auto-start fails, click **Start** → **Run** and enter
x:\Nt\setup.exe.
3. Select the language for your locale and click **Next**. The Installation Options window opens.
4. Click **Typical Installation** and click **Next**. The Security Options window opens.
5. Define a user ID and password that is defined as a member of the Administrators Group on the local server. Click **Next**. The Product Directory window opens.
6. Click **Next** to accept the default destination directories for the WebSphere Application Server AES directory and IBM HTTP Server directory. Click

Browse to define a different destination directory for either or both products. The Database Options window opens.

7. Accept the DB2 default setting for database type. If you change the default AES database name, be sure the new name conforms to the DB2 General Naming rules (see “Planning user IDs and passwords before you install DB2 Universal Database” on page 13).
 - If you are installing the database on a local DB2 system, enter the user ID and password that has the correct privileges to create the database and click **Next**. The Select Program Folder window opens.
 - If you are installing the database on a remote DB2 instance, select **Remote Database** and define path parameters for the remote database as required. Type the user ID and password that has the correct privileges to create the database on the remote DB2 system and click **Next**.
8. Accept the default program directories for IBM HTTP Server and WebSphere Application Server AES or define alternate directories. Click **Next**.
9. WebSphere begins copying files to the server.
10. Restart the server after the installation completes.
11. Click **Start** → **Programs** and verify that IBM HTTP Server and WebSphere Application Server AES are listed.
12. Open Services and verify that the IBM HTTP Server and WebSphere Application Server AES are listed as Windows NT or Windows 2000 services.

WebSphere Application Server AES opens and closes multiple command-line interface windows after you restart the workstation. This is a normal part of the installation process.

After you restart the server and the installation program finishes configuring the WebSphere Application Server AES components, WebSphere Application Server AES automatically launches a First Steps application. First Steps gives you the opportunity to take an interactive tutorial that provides experience with configuring and defining sample data to learn more about the product.

Installing WebSphere Application Server AES on AIX

This section describes how to install WebSphere Application Server AES on an AIX server.

These instructions assume the following:

- Your machine has enough memory and disk space for your installation. The Typical Installation requires approximately 92 MB of disk space for WebSphere Application Server AES and an additional 22 MB for IBM HTTP Server.

- If you plan to use IBM HTTP Server, you will select the IBM HTTP Server option during the WebSphere Application Server AES installation process. If you plan to use a different supported Web server with WebSphere, you have already installed it on the same machine that will contain WebSphere Application Server AES.
- You do not have a previous version of WebSphere Application Server AES already installed on this machine. If you do have a previous version of WebSphere Application Server AES already installed, do not follow these instructions.

Perform the following steps to install WebSphere Application Server AES.

1. Ensure that you are logged into the system with superuser (root) privileges.
2. If you have a version of IBM HTTP Server previous to Version 1.3.19 installed on your machine, uninstall IBM HTTP Server. The typical installation of WebSphere Application Server AES installs IBM HTTP Server Version 1.3.19.
3. If another Web Server is running on the system, stop that Web server.
4. Insert the WebSphere Application Server AES CD-ROM into the CD-ROM drive.
5. If necessary, use the **mkdir** command to create a mount point for the CD-ROM. The following command creates a mount point at the directory */cdrom*; you can mount the CD-ROM at any location on the machine's local file system.

```
# mkdir /cdrom
```

The commands in these steps assume the CD-ROM is mounted at */cdrom*. If you mount the CD-ROM at a different location, use that location when using commands.

6. Mount the CD-ROM drive by entering the following command:


```
# mount -o ro -v cdrfs /dev/cdnumber /cdrom
```

In this command, *number* is the CD-ROM number for your system, usually 0 (zero). **Tip:** this command assumes that the CD-ROM is mounted at */cdrom*.
7. Ensure that the DISPLAY and TERM environment variables are set properly.
8. If the supported Web server or database you plan to use with WebSphere is newer than the version currently required by WebSphere AES, you must update the *prereq.properties* file or disable the prerequisite checking functionality before installing WebSphere Application Server.

To obtain an updated *prereq.properties* file, download the latest version from the WebSphere Application Server Tools Web site at

www.ibm.com/software/webservers/appserv/tools.html. Ensure that the updated `prereq.properties` file is downloaded or copied into the local `/tmp` directory.

To disable prerequisite checking functionality, perform the following steps:

- a. Copy the `prereq.properties` file from the `/cdrom` directory to the `/tmp` directory on the machine on which you plan to install WebSphere Application Server AES.
 - b. Open the `prereq.properties` file in a text editor and disable prerequisite checking for an individual component by changing the value of the specific key from 1 to 0.
 - c. Save the edited `prereq.properties` file.
9. Navigate to the `/cdrom/aix` directory.
 10. If you have not downloaded an updated `prereq.properties` file or if you have disabled the prerequisite checking functionality, start the WebSphere Application Server AES installation program by using the `install.sh` command, as follows:

```
# ./install.sh
```

If you have downloaded an updated `prereq.properties` file or you have disabled the prerequisite checking functionality, as detailed in step 6, start the WebSphere Application Server AES installation program by using the `install.sh` command as follows:

```
# ./install.sh -prereqfile /tmp/prereq.properties
```

11. The Welcome to the IBM WebSphere Application Server AES Setup program dialog box opens. Click **Next**.
12. The Install Options dialog box opens. Ensure that **Typical Installation** is selected, and click **Next**.
13. The Select Destination Directory dialog opens. Specify the directory where you want to install WebSphere Application Server AES. You can either accept the default destination directory or specify a different one by typing the full path name or by clicking **Browse**. You cannot modify the destination directory for IBM HTTP Server. Click **Next**.
14. The Setup Complete dialog box opens. To view the ReadMe file, select **Yes, I want to view the Readme File** and click **Finish**. The ReadMe file opens in a browser window. To view the ReadMe file later, deselect **Yes, I want to view the Readme File** and click **Finish** to exit from the IBM WebSphere Application Server AES Setup program.
15. The WebSphere Application Server AES-First Steps dialog box opens. You can use this Graphic User Interface (GUI) to access product information in the InfoCenter, start and stop the application server, run the WebSphere samples, launch the administrative console, or launch the application assembly tool. Because you must first start and possibly configure the Web server before using WebSphere Application Server

AES, close this dialog for now. You can launch the First Steps GUI later by running the `firststeps.sh` script located in the `/usr/WebSphere/AppServer/bin` directory.

16. Unmount the CD-ROM before removing it from the CD-ROM drive by using the **unmount** command:

```
# unmount /cdrom
```

17. If you are using a Web server other than IBM HTTP server, start the server. If you are using IBM HTTP Server and you installed it during the WebSphere Application Server AES installation, you might need to configure the Web Server to run it successfully.

Perform the following steps to verify that IBM HTTP Server is installed and configured correctly:

- a. Ensure that the Web server is running. If not, start it by entering the following command: `# /usr/HTTPServer/bin/apachectl start`
- b. Start a browser and enter the name of the local machine as the URL. If you see the IBM HTTP Server Web page, the Web server is installed and configured correctly.

For more information about configuring IBM HTTP Server, see the IBM HTTP Server documentation Web site at

www.ibm.com/software/webservers/httpservers/library.html

For information about enabling the Secure Sockets Layer (SSL) for IBM HTTP Server, see the IBM HTTP Server documentation Web site at

www.ibm.com/software/webservers/httpservers/doc/v1319/index.html

Perform the installation tests described in “Testing WebSphere Application Server AES on Solaris” on page 60.

Testing WebSphere Application Server AES on AIX

This section describes how to test the installation and configuration of your WebSphere Application Server AES. These instructions assume that you have installed a supported Web server and the WebSphere Application Server AES component.

Perform the following steps to test your WebSphere installation:

1. Ensure that you are logged into the machine with superuser root privileges.
2. Start the server by executing the `startServer` script:

```
# cd /usr/WebSphere/AppServer/bin
# ./startServer.sh
```

Ensure that the server has started successfully by checking the file named `Default_Server_stdout.log` located in the `/usr/WebSphere/AppServer/logs` directory. The message Server open for e-business appears in this file when the server has started successfully.

3. Start a Web browser and enter the following URL:

`http://machine_name:9090/admin`

In this command, *machine_name* represents the name of the machine on which WebSphere is running.

4. The Login dialog opens and prompts you to enter a user ID to which your configuration changes will be saved. Enter a user ID and click **Submit**. If you do not plan to save changes using your user ID, click **Submit** without entering a user ID and your changes will be saved using the default user ID User.

If the user ID you have entered is already in use and in session, you are prompted to do one of the following:

- Force the existing user ID out of session. The configuration file that was being used by the existing user ID will be saved in a temporary storage area. You will be prompted to load the saved file; choosing not to do so will delete it from the temporary storage area.
- Wait for the existing user ID to log out or time out of the session.
- Select a different user ID.

5. Administer the application server by performing the following steps:
 - a. When the console opens, a tree view is displayed. Expand the **Nodes** view.
 - b. Identify the name of your host machine and expand the view of that entry.
 - c. plus sign (+) next to the **Application Servers** entry to expand the view.
 - d. Select the **Default Server** entry. If the value of the **Execution State** field is `STOP`, click the drop-down menu and select `START`.
After you start the default server for the first time, it will start automatically if it stops, or if you restart the machine.
 - e. Click **OK**.

6. Ensure that the Web server is running. If the Web server is not running, start it.

7. Start a Web browser and enter the URL for the snoop servlet (a sample servlet that is installed by default):

`http://machine_name/servlet/snoop`

where *machine_name* represents the name of the machine on which WebSphere Application Server AES is running. Information about `/servlet/snoop` is displayed.

8. Ensure that you save any changes you want to keep. If you do not save the changes, they will be lost when you close the Web browser.
9. To stop the console, close the Web browser.
10. Proceed to “Testing WebSphere Application Server AES with an enterprise bean on AIX”.

If the number of hits is displayed, WebSphere AES is functioning properly.

Testing WebSphere Application Server AES with an enterprise bean on AIX

This section describes how to test your WebSphere Application Server AES configuration by using an enterprise bean and the Increment sample. These instructions assume that you have successfully installed and tested your WebSphere Application Server AES.

To test the WebSphere Application Server AES configuration using an enterprise bean:

1. Ensure that you are logged into the machine with superuser (root) privileges.
2. Ensure that the administrative console is running.
3. Ensure that the default server (located under **WebSphere Administrative Domain** → **Nodes** → *node_name* → **Application Servers**) is running.
4. Start a web browser and specify the following URL:
`http://machine_name/webapp/examples/HitCount`
where *machine_name* represents the name of the machine on which WebSphere is running. When the Web page opens, several selection options are displayed.
5. Under the heading **Generate hit count using**, click the **Enterprise Java Bean** option.
6. Under the heading **Transaction Type**, click **None**.
7. Click **Increment**.

If the number of hits is displayed, WebSphere Application Server AES is functioning properly.

Uninstalling WebSphere Application Server AES on AIX and Solaris

1. Ensure that you are logged into the server with superuser (root) privileges.
2. If IBM HTTP Server or another Web server is running on your system, stop the Web Server.

Restriction: Although IBM HTTP Server can be installed using the WebSphere Application Server AES installation program, it is not uninstalled when you uninstall WebSphere Application Server AES. It must be uninstalled separately. See the IBM HTTP Server Library Web site at

www.ibm.com/software/webservers/htpservers/library.html

for more information.

3. Ensure that your DISPLAY and TERM environment variables are set properly.
4. Navigate to the root installation directory (/opt/WebSphere/AppServer on HP-UX, Linux and Solaris) and /usr/WebSphere/AppServer on AIX and run the **uninstall.sh** script as follows:

```
# ./uninstall.sh
```
5. The uninstallation program starts and the Uninstall dialog box opens. Click Uninstall to remove WebSphere Application Server AES from the server.
6. To ensure that subsequent installations of WebSphere Application Server AES do not conflict with files left on the server from a previous installation, use the `rm -r` command to remove the WebSphere directory structure. **Recommendation:** Use caution when running this command to prevent the unintentional removal of portions of the file system.

Installing WebSphere Application Server AES for Sun Solaris

This section describes the easiest way to install a configuration of WebSphere Application Server AES that uses the following:

- Solaris 7 or 8
- Java 2 Software Development Kit (SDK) 1.3 (version supplied with WebSphere Application Server (WAS))
- IBM HTTP Server 1.3.19
- A single node

Before installing, check the WebSphere Application Server Supported Hardware, Software and APIs Web site at

<http://www.ibm.com/software/webservers/appserv/doc/latest/prereq.html> to ensure that you have the correct prerequisites, including operating system patches.

These instructions assume the following:

- Your machine has enough memory and disk space for your installation. For more information on WebSphere requirements, see

www.ibm.com/software/webservers/appserv/doc/latest/prereq.html

- You do not have a previous version of WebSphere Application Server already installed.
- You will use IBM HTTP Server as your Web server and will install it at the same time and on to the same node as you install WebSphere Application

Server. If you plan to use another supported Web server with WebSphere Application Server, do not follow these instructions.

Note: You must purchase and install any Web server except IBM HTTP Server *before* you install WebSphere Application Server. IBM HTTP Server is supplied with WebSphere Application Server and is installed automatically during installation of WebSphere Application Server.

To install WebSphere Application Server on Solaris:

1. Ensure that you are logged onto the host machine with superuser (root) privileges.
2. Stop any pre-existing Web server on your system that is running. If you plan to install IBM HTTP Server 1.3.19 as part of the WebSphere Application Server installation and a version of IBM HTTP Server earlier than 1.3.19 is already installed on your system, you must uninstall it in order for the WebSphere Application Server installation program to successfully install IBM HTTP Server 1.3.19.
3. Insert the WebSphere Application Server CD-ROM and, if necessary, mount the CD-ROM drive. On most Solaris systems, the Volume Management daemon (vold) mounts the CD-ROM automatically and immediately, as well as each time the machine is restarted. If the vold process is not running on the local machine, see your Solaris documentation for instructions on how to mount the CD-ROM drive. The following steps assume that the CD-ROM drive is mounted at /cdrom.
4. Navigate to the correct directory on the WebSphere Application Server CD-ROM by entering the following command:

```
# cd /cdrom/cdrom0/sun
```
5. Ensure that the directory /usr/ucb exists in the PATH environment variable for the root login. If the directory does not exist, you must edit the install.sh script. To edit install.sh:
 - a. Copy the install.sh script from the /cdrom/cdrom0/sun directory to the /tmp directory on the machine where you will install WebSphere Application Server.
 - b. Open install.sh in a text editor and locate the line USERNAME=' /usr/ucb/whoami '.
 - c. Add the following line *before* the line USERNAME=' /usr/ucb/whoami ':

```
export PATH = $Path":/usr/ucb
```
 - d. Save the edited install.sh script.
6. If the supported Web server you plan to use with WebSphere Application Server is newer than the version currently required by WebSphere Application Server, you must update the prereq.properties file or disable the prerequisite checking functionality before installing Websphere Application Server.

To obtain an updated `prereq.properties` file, download the latest version from the WebSphere Application Server Tools Web site at

www.ibm.com/software/webservers/appserv/tools.html

Ensure that the updated `prereq.properties` file is downloaded or copied into the local `/tmp` directory.

To disable prerequisite checking functionality:

- a. Copy the `prereq.properties` file from the `/cdrom/cdrom0/sun` directory to the `/tmp` directory on the machine on which you plan to install WebSphere Application Server.
 - b. Open the `prereq.properties` file in a text editor and disable prerequisite checking for an individual component by changing the value of the specific key from 1 to 0.
 - c. Save the edited `prereq.properties` file.
7. Run the installation script in one of the following ways, depending on the actions taken in Step 5 and Step 6:
- If you *have* edited the `install.sh` script as detailed in Step 5, but *have not* downloaded a new `prereq.properties` file or disabled prerequisite checking functionality as detailed in Step 6, run the installation script file by typing:

```
# cd /cdrom/cdrom0/sun  
# /tmp/install.sh -prereqfile /tmp/prereq.properties
```
 - If you *have* edited the `install.sh` script as detailed in Step 5 and **have** downloaded a new `prereq.properties` file or disabled the prerequisite checking functionality as detailed in step 6, run the installation script file by typing:

```
# cd /cdrom/cdrom0/sun  
# /tmp/install.sh -prereqfile /tmp/prereq.properties
```
 - If you have *not* edited the `install.sh` script detailed in Step 5 and have *not* downloaded a new `prereq.properties` file or disabled the prerequisite checking functionality as detailed in Step 6, run the installation script by typing:

```
# /cdrom/cdrom0/sun/install.sh
```
 - If you have *not* edited the `install.sh` script as detailed in Step 5 and *have* downloaded a new `prereq.properties` file or you disabled the prerequisite checking functionality as detailed in Step 6, run the installation script file by typing:

```
# /cdrom/cdrom0/sun/install.sh -prereqfile /tmp/prereq.properties
```
8. Click **Next** to pass the introductory page.

9. The Install Options window opens. Select **Typical Installation** and click **Next**.
10. The Select Destination Directory window opens. Specify the directory into which you want to install WebSphere Application Server. You can either accept the default destination directory or specify a different one by typing the full pathname or by clicking **Browse**. Because IBM HTTP Server is installed automatically, you cannot modify its destination directory. Click **Next**.
11. A window opens that lists the options you have selected to install. Click **Install** to begin the installation.
12. The Setup Complete window opens. To view the ReadMe file, click **Yes, I want to view the ReadMe File** and click **Finish**. The ReadMe file is displayed in a default browser window. To view the ReadMe file at a later time, deselect **Yes, I want to view the ReadMe File** and click **Finish** to exit from the WebSphere Application Server installation program.
13. The WebSphere Application Server - First Steps window opens. You can use the GUI to access product information in the InfoCenter, start or stop the application server, run samples within your application server environment, launch the administrative console, or launch the application assembly tool. Because you must first start and possibly configure your Web server, close this window for now. To access the First Steps window:
 - a. Navigate to the directory containing the `firststeps.sh` script (by default, `/opt/WebSphere/AppServer/bin`) by using the `cd` command:


```
# cd /opt/WebSphere/AppServer/bin
```
 - b. Run the `firststeps.sh` script as follows:


```
# ./firststeps.sh
```
14. Unmount the CD-ROM by typing:


```
# umount cdrom/cdrom0
```

You can now eject the CD-ROM.

15. You might need to configure IBM HTTP Server. Perform the following steps to verify that the IBM HTTP Server is installed correctly:
 - a. Ensure that the Web server is running or start it by entering the following command:


```
# /opt/IBMHTTPD/bin/apachectl start
```
 - b. Open a Web browser window and type the name of the host machine as the URL (`http://host_machine` or `localhost`). If you see the Welcome to the IBM HTTP Server page, the server was installed correctly.

Testing WebSphere Application Server AES on Solaris

This section describes how to test your installation and configuration of WebSphere Application Server AES. These instructions assume that you have

installed a supported Web server and WebSphere Application Server AES. Perform the following steps to test your WebSphere Application Server AES installation:

1. Ensure that you are logged into the host machine with superuser (root) privileges.
2. Navigate to the directory containing the `startServer.sh` script (located by default in the `/opt/WebSphere/AppServer/bin` directory) by using the `cd` command as follows:

```
# cd /opt/WebSphere/AppServer/bin
```
3. Start the server by typing `# ./startServer.sh`
Ensure that the server has started successfully by checking the file named `default_server_stdout.log` located in the `/opt/WebSphere/AppServer/logs` directory. The message `...open for e-business` appears in this file when the server has started successfully.
4. Open a Web browser window and enter the following URL:
`http://localhost:9090/admin`
5. The Login window opens and prompts you to enter a user ID to which your configuration changes will be saved. Enter a user ID and click **Submit**. If you do not care to save changes using your user ID, click **Submit** without entering an ID and your changes will be saved using the default user ID `User`.

If the user ID you choose is already in use and in session, you are prompted to do one of the following:

- Force the existing user ID out of session. The configuration file that was being used by the existing user ID will be saved in a temporary storage area. You will be prompted to load the saved file; choosing not to do so will delete it from the temporary storage area.
 - Wait for the existing user ID to log out or time out of the session.
 - Select a different user ID.
6. Administer the application server by doing the following:
 - a. When the console opens, a tree view is displayed. Click the plus sign (+) next to the **Nodes** entry to expand the view.
 - b. Identify the name of your host machine and expand the view of that entry.
 - c. Click the plus sign (+) next to the **Application Servers** entry to expand the view.
 - d. Select the **Default Server** entry. If the value of the **Execution State** field is `STOP`, click the dropdown menu and select `START`.
After the default server is started initially, it will start automatically if it stops or if you restart the machine.
 - e. Click **OK**.

7. Test the server by doing the following:
 - a. Ensure that the Web server is running. If the Web server is not running, start it.
 - b. Open a Web browser window and enter the URL for the snoop servlet, which is a standard sample servlet installed by default, as follows:
`http://machine_name/servlet/snoop`
 In this command, *machine_name* represents the name of the machine on which WebSphere Application Server is running. Information on `/servlet/snoop` is displayed.
8. To stop the console, close the browser. Ensure that you save any changes that you want to keep. Unless you save the changes, they will be lost when you close the browser.

Testing WebSphere Application Server AES with an enterprise bean on Solaris

This section describes how to test your WebSphere configuration by using an enterprise bean and the Increment sample. These instructions assume that you have installed your WebSphere Application Server system and have tested the installation by using the instructions in “Testing WebSphere Application Server AES on Solaris” on page 60.

Perform the following steps to test your WebSphere configuration using an enterprise bean:

1. Ensure that you are logged into the machine with superuser (root) privileges.
2. Navigate to the directory containing the **startServer.sh** script (located by default in the `/opt/WebSphere/AppServer/bin` directory) by using the **cd** command as follows:
`# cd /opt/WebSphere/AppServer/bin`
3. Start the server by entering the following command:
`# ./startServer.sh`
 Ensure that the server has started successfully by checking the file named `default_server_stdout.log` located in the `/opt/WebSphere/AppServer/logs` directory. The message `...open for e-business` appears in this file when the server has started successfully.
4. Open a Web browser window and enter the following URL:
`http://localhost:9090/admin`
5. The Login window opens and prompts you to enter a user ID to which your configuration changes will be saved. Enter a user ID and click **Submit**. If you do not care to save changes using your user ID, click **Submit** without entering an ID and your changes will be saved using the default user ID User.

If the user ID you choose is already in use and in session, you are prompted to do one of the following:

- Force the existing user ID out of session. The configuration file that was being used by the existing user ID will be saved in a temporary storage area. You will be prompted to load the saved file; choosing not to do so will delete it from the temporary storage area.
 - Wait for the existing user ID to log out or time out of the session.
 - Select a different user ID.
6. Ensure that the **Default Server** is started by doing the following:
 - a. When the console opens, a tree view is displayed. Click the plus sign (+) next to the **Nodes** entry to expand the view.
 - b. Identify the name of your host machine and expand the view of that entry.
 - c. Click the plus sign (+) next to the **Application Servers** entry to expand the view.
 - d. Select the **Default Server** entry. If the value of the **Execution State** field is *STOP*, click the drop-down menu and select *START*.
After the default server is started initially, it will start automatically if it stops or if you restart the machine.
 - e. Click **OK**.
 7. Ensure that the Web Server is running. If the Web server is not running, start it.
 8. Start a web browser and specify the following URL:
`http://machine_name/webapp/examples/HitCount`
In this command, *machine_name* represents the name of the machine on which WebSphere is running. When the Web page opens, several selection options are displayed.
 9. Under the heading **Generate hit count using**, click the radio button for the **Enterprise Java Bean** option.
 10. Under the heading **Transaction Type**, click the radio button for the **None** option.
 11. Click **Increment**.
If the number of hits is displayed, WebSphere is functioning properly.

Uninstalling WebSphere Application Server AES on AIX and Solaris

1. Ensure that you are logged into the server with superuser (root) privileges.
2. If IBM HTTP Server or another Web server is running on your system, stop the Web Server.

Restriction: Although IBM HTTP Server can be installed using the WebSphere Application Server AES installation program, it is not

uninstalled when you uninstall WebSphere Application Server AES. It must be uninstalled separately. See the IBM HTTP Server Library Web site at

www.ibm.com/software/webservers/htpservers/library.html

for more information.

3. Ensure that your DISPLAY and TERM environment variables are set properly.
4. Navigate to the root installation directory (/opt/WebSphere/AppServer on HP-UX, Linux and Solaris) and /usr/WebSphere/AppServer on AIX and run the **uninstall.sh** script as follows:

```
# ./uninstall.sh
```
5. The uninstallation program starts and the Uninstall dialog box opens. Click Uninstall to remove WebSphere Application Server AES from the server.
6. To ensure that subsequent installations of WebSphere Application Server AES do not conflict with files left on the server from a previous installation, use the `rm -r` command to remove the WebSphere directory structure. **Recommendation:** Use caution when running this command to prevent the unintentional removal of portions of the file system.

Installing MQSeries Workflow

This section explains how to install MQSeries on Windows, AIX and Sun Solaris servers.

Installing MQSeries Workflow for Windows

MQSeries Server has two prerequisites: Active Directory Services Interface (ADSI) 2.0, and Microsoft Management Console 1.1. The MQSeries Server CD includes both products in the Prereqs directory. If you are installing on Windows 2000, ADSI and MMC are part of the operating system.

The MQSeries installation CD has an auto-start feature. If you need to install the prerequisites, click **Cancel** when the MQSeries for Windows - Language Selection window opens and navigate to the Prereqs directory.

Installing MQSeries Server software on Windows

1. If you installed the prerequisites from the MQSeries Server CD, click `Setups/xx_xx/install.exe` where `xx_xx` is the language for your locale. If your workstation configuration already included ADSI 2.0 and MMIC 1.1, insert the CD-ROM labeled **IBM MQSeries for Windows NT Server** into your CD-ROM drive.
2. If the installation does not start automatically:

- a. Click **Start** → **Run** from the Windows taskbar.
- b. Enter `x:\setup.exe` in the **Open** field, where x is the drive letter for your CD-ROM drive.
- c. Click **OK**.

The MQSeries for Windows - Language Selection window opens.

3. Select the language that supports your locale and click **OK**. The Setup window opens, then the Welcome window opens.
4. Click **Next**. The Read License Conditions window opens.
5. Click **Yes** to accept the License Agreement terms.
6. To accept the default MQSeries installation folders, click **Next**. If you do not want to use the defaults, change them and then click **Next**. The Setup Type window opens.
7. Click **Typical** and then click **Next**. The Set Up Default Configuration window opens.
8. Leave the **Set up a default configuration** check box selected and click **Next**. The Select Options window opens.
9. Leave both check boxes selected in the Select Options window and click **Next**. The Join Default Cluster window opens.
10. Click **Yes, make it the repository for the cluster** and then click **Next**. The Repository Location window opens.
11. Click **Next**. The Select Program Folder window opens.
12. Click **Next**. A folder called **IBM MQSeries** is added to the Windows **Start** menu under **Programs**. The Ready to Copy Files window opens.
13. Click **Next**. The installation program copies program files to the MQSeries installation directory. This can take ten or more minutes. The Setup Complete window opens when the installation program finishes copying the files.
14. Click **Finish** to complete the MQSeries server installation process. The MQSeries will to automatically start as a Windows NT service.

Installing MQSeries Workflow on Windows

After you have installed MQSeries server, you must install MQSeries Workflow to use workflow.

1. Ensure that your workstation meets the prerequisites listed for Workflow in Table 6 on page 22.
2. Ensure that you have installed MQSeries Server Version 5.2h.
3. Create a temporary folder on your workstation for the MQSeries Workflow installation files; for example, `c:\temp\cmbwf`.
4. Insert the EIP CD in the CD drive.
5. Copy the MQSeries Workflow installation and configuration files from the `WFIInstall` directory on the EIP CD to the temporary directory.

6. Open a command window and change to the temporary directory that you created in step 3 on page 65
7. Remove the EIP CD and insert the MQSeries Workflow CD.
8. If the MQSeries Workflow installation begins automatically, click **Cancel** and **Exit Setup**.
9. To start the MQSeries workflow installation, type: `cmbwinstall <x> <temp>` where *x* is the name of the CD drive and *temp* is the name of the temporary directory where you copied the MQSeries Workflow installation and configuration files in step 3 on page 65 For example, `cmbwinstall g: c:\temp\cmbwf`.
To install from a LAN, use the LAN alias instead of the drive letter.
10. Restart the workstation when you see the message MQSeries Workflow installation completed.

Configuring MQSeries Workflow on Windows

To configure MQSeries Workflow:

1. Open a command window and change to the temporary directory you created in the previous task.
2. Enter: `cmbwfconfig`

When configuration completes, enter `cmbwfstart` at a command prompt to start the MQSeries Workflow server. Two command windows open. Leave these command windows open to continue running the server.

Tip: Restart the Workflow server before you log on to the administration client, or else you will not be able to log on.

To configure your MQSeries Workflow server as an RMI server, see “Configuring workflow with an RMI server” on page 151.

Installing MQSeries Workflow for AIX

You can install MQSeries for AIX Version 5.2 on any server that can run AIX Version 4.2.

Installing MQSeries on AIX

Before you can install MQSeries for AIX you must create and mount a `/var/mqm` file system, or `/var/mqm`, `/var/mqm/log`, and `/var/mqm/errors` file systems.

Allow a minimum of 30 MB of storage for `/var/mqm`, 2 MB of storage for `/var/mqm/errors`, and 20 MB of storage for `/var/mqm/log` if you choose to create separate file systems.

To use SMIT for the installation,

- Log in to SMIT with root authority. From the shell, type: `smit`

- Select the appropriate device appropriate for your installation using this sequence of windows:
 - Software Installation and Maintenance
 - Install and Update Software
 - Install and Update from LATEST Available Software

You can also use the alternative fast path command:

- `smitty install_latest`

Press **List** to display the Single Select List window.

Select: /dev/cd0 (CD-ROM Drive) Select **Do** to display the parameters for Install Latest Level.

Press **F4** to obtain a list of components to install.

Press **Enter**.

If you have a previous version of the product on your machine, change the Auto Install prerequisite software to **No** and Overwrite existing version to **Yes**.

Select **Do** to install the software.

Tip: if you want to verify as root, you must add **Root** to the **mqm** group

MQSeries AIX installation verification procedures

This section describes how to verify a local (standalone) installation, involving no communication links to other MQSeries machines.

Follow the steps in this section to install and test a simple configuration of one queue manager and one queue. In this process, you use sample applications to put a message onto the queue and to read the message from the queue.

1. Install MQSeries for AIX on the workstation (include the Base Server component as a minimum).
2. Create a default queue manager (in this example called `venus.queue.manager`):
 - a. At the command prompt in the window type: `crtmqm -q venus.queue.manager`
 - b. Press **Enter**. Messages are displayed telling you that the queue manager has been created, and that the default MQSeries objects have been created.

Tip: In prior releases of MQSeries, it was necessary to run a script file called `amqscoma.tst` to define the MQSeries default objects. This step is not required in this release of the product.

3. Start the default queue manager:

- Type `strmqm` and then press **Enter**:
- A message tells you when the queue manager starts.

4. To enable MQSC commands, type `runmqsc` and press **Enter**.

Tip: MQSC has started when the following message appears: Starting MQSeries Commands. MSQC has no command prompt.

5. Define a local queue (in this example, called `ORANGE.QUEUE`):

- Type `define qlocal (orange.queue).` and press **Enter**. Any text entered in MQSC in lowercase is converted automatically to uppercase unless you enclose it in single quotation marks. This means that if you create a queue with the name `orange.queue`, you must refer to it in any commands outside MQSC as `ORANGE.QUEUE`. The message MQSeries queue created is displayed when the queue is created.

You have now defined a default queue manager called `venus.queue.manager` and a queue called `ORANGE.QUEUE`.

6. To Stop MQSC, press **Ctrl-D**, or type `end` and press **Enter**. The following message appears: **Enter**.

The following message is displayed:

- One MQSC commands read. No commands have a syntax error. All valid MQSC commands were processed.

The command prompt is displayed again.

To test the queue and queue manager, use the samples `amqsput` (to put a message on the queue) and `amqsget` (to get the message from the queue) as described in the following steps.

1. Change to `/usr/mqm/samp/bin`

2. To put a message on the queue, type `amqsput ORANGE.QUEUE` and press **Enter**.

The following message appears:

```
sample amqsput0 start
target queue is ORANGE.QUEUE
```

3. Type any message text and press **Enter two times**.

The following message appears: `Sample amqsput0 end`

If required, change to `/usr/mqm/samp/bin`

To get the message from the queue, type `amqsget ORANGE.QUEUE.` and press Enter: The following occurs:

- The sample program starts
- your message is displayed
- the sample ends
- the command prompt is displayed again

The verification is complete.

Installing IBM MQSeries Workflow on AIX

Prerequisites:

1. AIX version 4.3 or higher;
2. IBM MQSeries for AIX Version 5.2 or higher;
3. IBM DB2 Universal Database for AIX Version 7.2 or higher.

Installing on AIX

Creating user ID and groups

1. Log on as root.
2. Enter command `Mkgroup fmcgrp`
3. Verify that group **mqm** exists.
4. Verify that group **db2iadml** exists.
If it does not exist, check to see that you have installed DB2 correctly. If your DB2 Administrator group has a different name, be careful to substitute it whenever the default `db2iadml` is mentioned.
5. Follow these steps to create an MQ Workflow Administration user:
 - If the configuration is to be performed by the default MQ Workflow Administration user ID **fmc**, which will have MQSeries and DB2 administration rights, enter the command `Mkuser -a pgrp=fmcgrp groups=mqm,db2iadml fmc`
 - If the default MQ Workflow Administrator user ID **fmc** is not going to have MQSeries and DB2 administration rights, enter the command: `Mkuser pgrp=fmcgrp fmc`
6. Set the password for user **fmc** with the command: `passwd fmc`
You can create a user and a group using SMIT.

Installing MQ Workflow on AIX

1. Log on to the workstation as root.
2. Insert the MQ Workflow installation disk into the CD-Rom drive.
3. Mount the CD-Rom by entering the command: `Mount -oro -v cdrfs /dev/cd0 /cdrom.`

4. If you intend to use the automatic default configuration option, you will need to add the following DB2 script file to the startup script `/home/fmc/.profile` so it will start:
`Home/<db2_instance_owner>/sql1lib/db2profile`
5. Start the System Management Interface Tool by entering **smit** or **smitty**.
6. Step through the installation windows by selecting the appropriate options until the **MULTI-SELECT LIST** window appears.
 - a. Select Software Installation and Maintenance.
 - b. Select Install and Update Software.
 - c. Select Install and Update Software from LATEST Available Software. Enter the INPUT device/directory where the CD ROM is mounted.
7. The following list of components appears. Select the MQ Workflow components you want to install.

Table 11. Installable software

Application	Installation command
FMC-All	<code>fmc_all_filesets</code>
MQSeries Workflow API Development Kit	<code>fmc.api.adt</code>
MQSeries Workflow API Runtime	<code>fmc.api.rte</code>
MQSeries Workflow Administration Utility	<code>fmc.autil</code>
MQSeries Workflow Base Common Files	<code>fmc.base</code>
MQSeries Workflow Java API Beans	<code>fmc.java.beans</code>
MQSeries Workflow Java CORBA Agent	<code>fmc.java.agent</code>
MQSeries Workflow Java Documentation	<code>fmc.java.doc</code>
MQSeries Workflow Other Common Files	<code>fmc.baseext</code>
MQSeries Workflow Program and Execution	<code>fmc.pea</code>
MQSeries Workflow Rtdb and Srvr Common Files	<code>fmc.basertdb</code>
MQSeries Workflow Runtime Database Utilities	<code>fmc.rtdbutil</code>
MQSeries Workflow Samples	<code>fmc.samples</code>
MQSeries Workflow Server	<code>fmc.server</code>
Fmcdefault	All <code>fmcdefault_all_filesets</code>
MQSeries Workflow Default Configuration	<code>fmcdefault.config</code>

Select the `fmc` package to install all AIX-based MQ Workflow components.

Select the `fmcddefault` package to install AIX-based MQ Workflow components and configure them automatically with default configuration values.

8. Select appropriate options to begin the installation.
After starting the installation, program files are copied to the newly created MQSeries Workflow installation directory, `/usr/lpp/fmc`.
9. When the installation is complete, exit `smi`t through the exit menu.
10. If you selected the default configuration, the configuration tool will run automatically to create a configuration based on the default values. After it has completed creating the configuration, you should perform the steps described in “Verifying an MQ Workflow Server on AIX” on page 73.

Before Creating an MQ Workflow Configuration on AIX: Follow these steps in order to prepare the MQ environment:

1. Prepare the DB2 environment. To do so, log on as root.
2. Add the DB2 profile to the `.profile`.

The following users will also need `./home/db2admin/sqllib/db2profile` in their profiles:

- `fmc`;
- Each MQ Workflow Configuration administrator user;
- The MQSeries Administrator, if the MQ Workflow Configuration Administrator is not in the group `db2ladm1`

3. Type `db2start` to start the DB2 instance.
4. Log in as root using: `fmczinsx -o env`.
This creates the MQ Workflow installation profile defaults and a log file in `/var/fmc/fmczinsx.log`.
5. Log in as root using: `fmczinsx -o inf`.
This creates subdirectories used for all the MQ Workflow product files (i.e. `cfgs`, `qmgrs`, `log`, etc.) Log information is appended to `/var/fmc/fmczinsx.log`.
6. If you want to use DB2 for the Runtime database, type the command `fmczinsx -o db2`.
7. If you want all MQ Workflow clients on this machine to use the MQSeries Server API, type the command `fmczinsx -o mqserver`. If, however, you want all MQ Workflow clients on this machine to use the MQSeries Client API, type the command `fmczinsx -o mqclient`.
8. Edit the `/home/fmc/.profile` by adding this line: `Export LANG=en_US`
9. Optional - if you use MQSeries 5.1 on AIX within Java 2, you must export the following setting: `export LDR_CTRL=MAXDATA=0x30000000`
Check the size of the `/var` directory. If required, make `/var` large enough for creating a database.

Creating an MQ Workflow Configuration: Once you have prepared the environment, the following steps will configure MQ Workflow.

1. While you are logged in as root, type `fmczutil`. If you get an ABORT message, this means because the NLSPATH variable is not set.
2. You will see a menu with the options l, c, x. Type c to create a new configuration.
3. All default names appear in brackets. Accept the default [FMC] or enter a new name.
4. A menu appears with the components to configure. Select a for all.
5. Select x to exit the Select Category Menu.
6. At the DB2 user ID prompt, type `fmc`
7. Select n to create a new database.
8. Define the DB2 instance name as `asdb2inst1`.
9. Define the database name as `FMCDB`.
10. Define the database location as `/var/fmc/rt_db/db2inst1/FMCDB`.
11. Define the container location as `/var/fmc/rt_db/db2inst1/FMCDB`.
12. Define the log files location as `/var/fmc/rt_db/db2inst1/FMCDB`.
13. When asked for space management for database, choose s.
14. Define system group name as `FMCGRP`.
15. Define system name as `FMCSYS`.
16. Define queue manager name as `FMCQM`.
17. Define queue prefix as `FMC`.
18. Define channel definition table as `/var/fmc/chltabs/MQWFCHL.TAB`.
19. Define TCP/IP address as your .ip.address.
20. Define TCP/IP prt as 5010.
21. If you are already using an MQSeries queue manager on this port, you must specify another port to be used by the MQ Workflow queue manager. Make sure this new port is defined in the `/etc/services` file and that there is a matching entry in the `etc/inetd.conf` file. After adding new entries to these files, you must refresh your TCP/IP services.
22. When prompted to choose a type of log, choose c for circular to save disk space. If this is a production system, you may want to choose linear logging.
23. Leave the log files location blank. This is the location of the MQSeries logging file(s) and is used whenever you create a queue manager.
24. Define cluster name as `FMCGRP`.
25. Select repository type for qmgr `FMCQM` in cluster `FMCGRP`.
26. Select f if you are currently not using clusters, or if you do not want the `FMCQM` queue manager to be part of an existing cluster.

The following will configure a Java agent.

1. Select your locator policy from the following:
 - l=Local bindings.
 - v=Visibroker Smart Agent.
 - c=CORBA Naming Service.
 - r=Java RMI.
 - i=Interoperable Object Reference.
2. Define JDK/JRE Install Directory as java.
3. Define code version as 3211.
4. Define agent cycle as 300.
5. Define client threshold (number of objects) as 1000.
6. Define client cycle (in % of agent cycle) as 90.
7. When done, select x to exit the fmczutil command.

This procedure creates all the necessary file structures and profiles. It does not create the database and queue managers.

Verifying an MQ Workflow Server on AIX: This process will verify the configuration of an MQ Workflow server.

1. Log on with a user ID that has administrator rights for the configuration that is to be verified, such as fmc.
2. Type the command `fmczchk -y <configID>`. If any errors or warnings result, check the log file `fmczchk.log` in the current directory.
3. Start the MQSeries resources with the following steps:
 - Start the trigger manager with the command `strmqm <MQQueueManager>`, such as `FMCQM`
 - Start the trigger monitor with the command `runmqtrm -m <MQQueueManager>`, such as `FMCQM`.
4. Start the administration server with the command `fmcmain -y <ConfigID>` (fmc) >.
5. Use the following steps to verify that the administration server started successfully.
 - Type `fmautil -u=ADMIN -p=password` to start the administration utility. This will verify that the administration client can connect to the server.
 - If you successfully connect, a menu interface appears with more than just 's' and 'x' as options. This utility is used to shutdown the Admin server. Do not just stop the `fmcmain` process. If you stop the `fmcmain` process or the process is shutdown abnormally, then you must run the `fmcclean` utility.

To test a Windows client connection to a UNIX server:

1. Copy the server's channel table to the client machine. You can do this by copying the Workflow server's channel table to the client machine in binary mode. This file is in /var/fmc/chl1tabs/MQWFCHL.TAB. Copy or transfer to C:\Program Files\MQSeries Workflow\chl1tabs.
2. Install and configure a Workflow Runtime Client on NT.
3. On the client machine, type the command `Fmczchk -y <configID (fmc) >`.
4. Make sure the MQ Workflow System and prerequisites are running on the server machine.
5. Follow these steps on the Windows taskbar:
 - Click **Start** → **Programs** → **MQSeries Workflow** → **MQSeries Workflow Client**
 - This test is successfully completed if the client establishes a connection to the server without producing any errors.

Installing MQSeries Workflow on Solaris

This section describes how to install MQSeries Version 5.2 on Sun Solaris.

1. Log on as root
2. Make sure all prerequisites are met.
3. Insert the CD-ROM labeled *IBM MQSeries Workflow Version 3.3 - Program Code for UNIX platforms* into the CD-ROM drive. The CD-ROM is mounted automatically.
4. Read the `readme.xxx` where `xxx` is your language code, for example, `enu` for US English.
5. Type the command:


```
pkgadd -d <fully-qualified-name-of-CDROM-image>
```

For example,

```
pkgadd -d /mount-point/solaris/fmc-3.3.0.pkg
```

Installation notes:

- You cannot use `admintool` to install MQ Workflow for Solaris.
 - By default, MQ Workflow for Solaris will be installed into `/opt/fmc`. If you want to install MQ Workflow for Solaris into a different base directory than `/opt`, you can specify another installation administration file using the `-a` option of `pkgadd`. The new installation administration file (located in `/var/sadm/install/admin`) must define the new base directory with a fully qualified path name, for example, `basedir=/usr`.
 - During installation a subdirectory `fmc` will be created for MQ Workflow in the base directory.
6. When you are prompted, select the MQSeries Workflow package.

7. The program files are copied to your machine. This may take several minutes.
8. If you get the command prompt without any error messages, the installation is complete.
9. If you installed MQ Workflow into a different base directory than /opt ,make sure that the environment variable, FMC_INSTALLATION_DIRECTORY, is set to the base directory. For example, FMC_INSTALLATION_DIRECTORY=/usr.
10. Check that your ' setting is high enough, as described in "Kernel configuration parameters"
11. If you are installing a new installation, see the MQSeries documentation for detailed instructions on configuring MQSeries on UNIX.
12. If you are migrating an existing installation, you should continue performing the migration steps described in the MQSeries documentation.

Kernel configuration parameters

There are recommended values for the Sun Solaris kernel configuration parameters.

- set msgsys:msginfo_msgmax =65535
- set msgsys:msginfo_msgmnb =65535
- set msgsys:msginfo_msgmap =1026
- set msgsys:msginfo_msgmni =256
- set msgsys:msginfo_msgssz =16
- set msgsys:msginfo_msgtql =1024
- set msgsys:msginfo_msgseg =32767
- set shmsys:shminfo_shmmax =483183820 (90%of your physical memory)
- set shmsys:shminfo_shmseg =1024
- set shmsys:shminfo_shmmni =1024
- set shmsys:shminfo_shmmin =1
- set semsys:seminfo_semaem =16384
- set semsys:seminfo_semvmx =32767
- set semsys:seminfo_semmni =1024 (semmni <semmns)
- set semsys:seminfo_semmap =1026 (semmni +2)
- set semsys:seminfo_semmns =16384
- set semsys:seminfo_semmsl =100
- set semsys:seminfo_semopm =100
- set semsys:seminfo_semmnu =2048
- set semsys:seminfo_semume =256

set maxusers =32 (This is the minimum,best to set it higher)

Chapter 5. Installing Enterprise Information Portal components on Windows

This section explains how to install EIP components on Windows servers.

Before you install EIP components

This section explains how to prepare for EIP installation.

- If you are installing a database, create a new DB2 administrator user ID and password and also create a user ID and password that has DB2-connect privileges on the server where you plan to install an administration database. For more details, see “Planning user IDs and passwords before you install EIP” on page 12.
- Install prerequisite software and verify that the Windows server meets the hardware requirements. For more details, see Chapter 3, “Enterprise Information Portal hardware and software requirements” on page 21.
- If required, remove previous versions of EIP. For more details, see “Removing previous versions of EIP” on page 79. **Tip:** The Uninstall program recognizes customized .ini and .bat files and gives you the option to make and save backup copies of Version 7.1 customized .ini and .bat files. The Uninstall program does not remove any EIP Version 7.1 databases. You migrate the databases after you install and configure EIP Version 8.1.
- Back up the information mining database, if you used information mining in EIP Version 7.1, as described in “General planning hints and tips” on page 18.

Before you install the administration database

Read this section before you install any administration database, including the information mining database, and the Content Manager Version 8 connector, or if you plan to add EIP tables to Content Manager Version 8 databases.

Sharing a Content Manager Version 8 database

Because EIP Version 8 and Content Manager Version 8 share common code, you can share a Content Manager Version 8 library server database.

Restriction: If you plan to share the library server database, you must be sure that the database was Unicode-enabled during installation and the codepage is 1208. There are two ways to check if the database meets the requirements:

Use a DB2 command window (Start→Programs→IBM DB2→Command Window)

1. At the prompt, type `db2 get db cfg for <Content Manager Version 8 database>`
2. Check that the Database code page setting is 1208

Use the DB2 Control Center (Start→Programs→IBM DB2→Control Center)

1. Highlight the Content Manager Version 8 database.
2. Right-click Configure. The Environment tab appears.
3. Check that the Database code page value is 1208.

If you plan to share a Content Manager Version 8 library server database, you must know the user IDs that were defined when that specific Content Manager Version 8 database was installed. This is required because the EIP installation program uses the user ID to access the Content Manager Version 8 database, add the EIP tables and save the modified database.

The Content Manager Version 8 database must be on a local drive of the server where you are installing EIP. You cannot add EIP tables to a Content Manager Version 8 database that is accessed through a networked drive.

You must start DB2 on the server that contains the Content Manager Version 8 Library Server database you are sharing with EIP.

Because you are you are modifying an existing DB2 database, you must log on to the server with a user ID and password that allows you to administer DB2 databases.

You must define exactly the same Server name, Schema name, user ID and password that was used when the Content Manager Version 8 database was created.

Are you installing an administration database *and* the Content Manager Version 8 connector?

If you install the Content Manager Version 8 connector, you must know the user IDs and passwords defined when the Content Manager Version 8 database that you want to connect to was installed. You must perform the following steps:

1. On the window labeled Identify Administration Database, you must enter one administration user ID and one DB2 Connect user ID. The administrator and the Connect user ID must be locally defined. **Requirement:** If you are sharing a Content Manager Version 8 library server, you must type the same administrator

user ID and the Connect user IDs defined when the Content Manager database you are sharing was created.

2. On the window labeled Configure Federated Server Connection, you must type the password associated with the DB2 Connect user ID.
3. On the Configure Content Manager Version 8 connector window, type the DB2 Connect user ID and password that was defined when the Content Manager Version 8 library server database was installed.

Are you installing an administration database but *not* the Content Manager Version 8 connector?

See steps 1 and 2 in the previous section.

Are you sharing a Content Manager Version 8 database?

You must perform the following steps:

1. If you are sharing a Content Manager Version 8 library server, you must type the same administrator user ID and the Connect user ID defined when the Content Manager database you are sharing was created.
2. On the window labeled Configure Federated Server Connection, type the DB2 Connect user ID and password that was defined when the Content Manager Version 8 Library Server database was installed.
3. On the Configure Content Manager Version 8 connector window, type the DB2 Connect user ID and password that was defined when the Content Manager Version 8 library server database was installed.

Restriction! The Database connection user IDs (and all other values) you define in steps 1, 2 and 3 of this section must be the same in each window.

Removing previous versions of EIP

The uninstall program removes the EIP components from previous versions. The databases are not removed because they are stored in DB2. The EIP uninstall program detects changes to *.INI and *.BAT files and prompts you to decide if you want to make backup copies of these files.

1. Click **Start**→**Programs**→**IBM Enterprise Information Portal for Multiplatforms**→**Uninstall**.
2. Select the language from the **Choose Setup Language** window, click **OK**, then click **Yes** to start the component removal process.
3. To remove modified *.INI or *.BAT files from cmbroot, click **Yes**. If you click **No**, the program prompts you to decide if you want to make backup copies of the *.BAT and *.INI file. If you click **Yes**, the program stores the backup files in cmbroot.
4. Click **Yes** or **No** and click **Finish**.

5. After you restart the workstation, copy backup *.INI or *.BAT files to a temporary directory.
6. Delete the \CMBROOT directory.

EIP Windows installation quick start

1. Insert the EIP Windows installation CD-ROM in the CD-ROM drive. If the program begins automatically, select the appropriate language and click **Next**. If the installation does not start automatically, navigate to the CD-ROM drive, select the appropriate language directory and double-click setup.exe.
2. Click **Accept** to accept the License Agreement. The Select Machine Type Window appears.
3. Click a Machine Type and click **Next**.
 - Client
 - Server
 - Development Workstation
4. Click **Next** to accept the default path and directory name for the EIP product and for the configuration files, or change the path and name information as required.
5. Click the appropriate components and subcomponents and click **Next**.
6. Depending on the components you install, and on your system plan, the program displays various installation windows and prompts you to type configuration information.
7. Click **Finish** and restart the server.

EIP installation windows

Table 12 lists the common EIP installation windows you always see, in the general sequence you see them, no matter which components you select. When you install some components, such as the Information Center or IBM Web Crawler, you see only the common installation windows.

When you install other components, you will see specific windows. Table 13 on page 81 lists the specific windows in alphabetical order. The installation sequence and the windows you see varies, depending on the components you install. For example, you will only see the VisualInfo for AS/400 Network Table Generation window if you select the CM for AS/400 connector.

Table 12. Common EIP installation windows

Common window	Details
License Agreement	See "Software License Agreement" on page 83.

Table 12. Common EIP installation windows (continued)

Common window	Details
Select Machine Type	See "Select Machine Type" on page 83.
Specify Destination	See "Specify Destination" on page 84.
Component Selection	See "Component Selection" on page 84.
Specify RMI Host Name and Port Number	See "Specify RMI Host Name and Port Number" on page 84.
System Configuration	See "System Configuration" on page 85.
Start Copying Files	See "Start Copying Files" on page 87.
Product Registration	See "Product Registration" on page 87.
Installation Complete	See "Installation Complete" on page 87

Table 13. Specific EIP installation windows

Specific window	Description	Details
Configure components for LDAP	You use this window to enable the administration database and/or the administration client to use LDAP information.	See "Configure Components for LDAP" on page 87.
Configure Content Manager V8 Server Connection	Only used when you install the Content Manager Version 8 connector.	See "Configure Content Manager V8 Server Connection" on page 88.
Configure federated server connection	Only used when you install: <ul style="list-style-type: none"> • the administration client and/or • any connector 	See "Configure Federated Server Connection" on page 89.
Configure LDAP Server	Only used when you install: <ul style="list-style-type: none"> • the common configurations on an LDAP server and • the federated connector and • the Content Manager Version 8 connector and • the administration or Information Mining database 	See "Configure LDAP Server" on page 88.

Table 13. Specific EIP installation windows (continued)

Specific window	Description	Details
Define LDAP Server	Only used when you install: <ul style="list-style-type: none"> the common configurations on an LDAP server and the federated connector and the Content Manager Version 8 connector and the administration or Information Mining database 	See "Define LDAP Server" on page 89.
Destination Path for Content Manager V7 connector C-APIs	Only used when you install the Content Manager Version 7 connector.	See "Destination Path for Content Manager V7 Connector C-APIs" on page 90.
Existing database	Only used when you install: <ul style="list-style-type: none"> The administration database and/or Information Mining feature and You share the EIP tables in a Content Manager Version 8 Library Server database. 	See "Existing Database" on page 90.
Identify Administration Database	Only used when you install an administration or Information Mining database.	See "Identify Administration Database" on page 90.
Image Search Server/Client Configuration	Only used when you select the Image Search feature.	See "Image Search Server/Client Configuration" on page 92
Install OnDemand?	Only used when you install the OnDemand viewer.	See "Install OnDemand?" on page 92.
Network Table Generation	Only used when you install the Content Manager Version 7 connector. This window gives you options to generate the Content Manager Version 7 network table.	See "Network Table Generation (for Content Manager version 7 connector)" on page 92

Table 13. Specific EIP installation windows (continued)

Specific window	Description	Details
Network Table Generation	Only used when you install the Content Manager Version 7 connector. The values you type are copied to the Content Manager Version 7 network table (FRNROOT/FRNOLINT.TBL).	See "Network Table Generation (for Content Manager version 7 connector)" on page 93
Select administration database options	Only used when you install a new database or replace an existing database.	See "Select Administration Database Options" on page 94.
Select Version of VisualInfo for AS/400	Only used when you install the VisualInfo for AS/400 connector.	See "Select Version of VisualInfo for AS/400" on page 94
Server configuration utility	Used to define port number, database name and other information about remote databases.	
Text Search Server/Client Configuration	Only used when you select the Text Search feature.	See "Text Search Server/Client Configuration" on page 94.
Upgrade OnDemand?	Only used when you install the OnDemand viewer <i>and</i> you have an existing OnDemand client on the server.	"Upgrade OnDemand?" on page 95
VisualInfo for AS/400 Network Table Generation	Only used when you install the VisualInfo for AS/400 connector. You type the values that are part of the VisualInfo for AS/400 network table.	

Common installation windows

This section describes the installation windows that you will see when you install any EIP component.

Software License Agreement

Click **Accept** to accept the license agreement. Click **Decline** to end the installation.

Select Machine Type

Click Client, Server or Development Workstation and click **Next**.

Server Configuration Utility

On this window, you enter the database name, server port number and other information required to connect to a remote database.

Specify Destination

On this window, you can change the default installation paths and directory names for the CMBROOT and CMgmt. CMBROOT contains the EIP program, and CMgmt contains the common configuration files. The information you define in this window is stored in the Windows environment system variables.

Type new information in one or both fields, or click Next to accept the default path and file names.

Component Selection

On this window, you select the components to install. You can install all components at the same time, or select individual components.

If you see Installed next to a subcomponent, it means that the installation program has detected the subcomponent on the server. If you select a subcomponent that is already installed, the program gives you the option to overwrite or retain the existing subcomponent.

If you see Installed next to a subcomponent, it means that the installation program has detected the subcomponent on the server. If you select a subcomponent that is already installed, the program gives you the option to overwrite or retain the existing subcomponent.

Specify RMI Host Name and Port Number

On this window, you define RMI host name and port number for an RMI server and you can also define an RMI host name and port number for a workflow or Information Mining RMI server.

If your system plan includes a master RMI server, type the host name of the master server and the master server port number in the fields in the top half of this window. The default host name is the local server name, and the default port number is 1919. The RMI information is copied to `x:\<CMCOMMON>\cmbclient.ini`. **Tip:** Ask the server administrator if you are required to enter a fully-qualified master RMI server host name.

If your system plan includes a separate RMI server for workflow or Information Mining, type the host name and port number for the workflow or Information Mining RMI server in the fields in the bottom half of this window. This RMI information is copied to `x:\<CMBROOT>\cmbsvclient.ini`

Tip: If your system plans include RMI, you must install and configure the connectors on the RMI server in a separate step before the clients can use the RMI server.

System Configuration

EIP Version 8 offers a new option that allows EIP components to access remote system configuration files across a network or Web server.

For example, you can install the configuration files on a network server in Chicago, install administration databases in the Seattle and San Francisco offices, and an administration client in New York. All users would access their required configuration files in Chicago through a network drive.

The selections you make on the System Configuration window define the location of the system configuration files. The system configuration files are in a directory named CMgmt. The files in CMgmt contain information used by the administration client, connectors and other EIP components. For example, the administration client needs the information stored in the configuration file named cmbds.ini to connect to the administration database. Another configuration file, cmbicmsrvs.ini, contains data required to catalog, connect to and search a Content Manager Version 8 server. The window also gives you the option to point remote components to a data source file stored on an LDAP server.

Restrictions

- The configuration files do not have to be installed on the network or Web server when you define the path, but the files must be installed before any user can work with EIP. To install the configuration files on a network or Web server, you can use the EIP installation CD-ROM, or, if you have already installed configuration files on another server, you can copy the CMgmt directory to the network or Web server.
- Before remote EIP components can access and use configuration files on a network server, you must configure the following properties:
 - Set up sharing on the configuration file directories and subdirectories. The configuration files that can be accessed across a network are installed in CMgmt, and the subdirectories are admin, doc.
 - Define user IDs and passwords for the remote users on the server where you installed the shared configuration files.
 - Be sure the user IDs and passwords have read/write privileges. Read/write access is required because the clients and other components update shared configuration files, including log files.
- If you install the configuration files on a Web server, see the Web administrator for information on configuring sharing and read/write parameters for remote EIP users.

- If you are installing the Information Center, you must select **Local** to install the system configuration files. The Information Center files are installed in `CMgmt/infoctr`. Users cannot access the Information Center through a network or Web server.
- If you plan to point remote users to data source configuration information stored on an LDAP server, you must use a utility specific to your LDAP product to install only the data source configuration file. See your LDAP administrator for more information. The data source file is named `cmbds.ini`.
- The option to point remote users to a data source file stored on an LDAP server is only selectable if:
 - You are installing the Content Manager Version 8 connector and
 - You are installing the federated connector by itself and/or
 - You are installing the administration database, the Information Mining database, or the administration client, because the federated connector is always installed with those components.

This section describes the fields on the System Configuration window.

Local Click **Local** to install the configuration files on the local server. The configuration files are installed in `<CMgmt>`, using the path and directory name you defined in the Specify Destination window.

Remote

Click **Remote** and type the path where you installed, or plan to install, the configuration files on a network server.

Tip: If you have already installed, or plan to install, Content Manager Version 8, EIP can share the Content Manager configuration files across a network. Click **Remote** and type in the path where you installed or plan to install the Content Manager configuration files.

Web Server

Type the URL of the Web server where you installed, or plan to install, the configuration files. The configuration files do not have to be installed on the Web server when you type the URL, but they must be installed before any user can work with EIP. Contact the Web administrator to learn more about how remote EIP users can connect to and update configuration files on a Web server.

Tip: If you have already installed, or plan to install, Content Manager Version 8, EIP can share the Content Manager configuration files. Type the URL where you installed or plan to install the Content Manager Version 8 configuration files.

Use datasource configuration information stored on an LDAP server

Click this box to begin the process of defining and configuring LDAP server information so you can later install the `cmbds.ini` configuration

file. You do not have to install an LDAP server to select this option. But you must know specific information about the LDAP server. If you click this box and press **Next**, the installation program displays the **Define LDAP Server** and **Configure LDAP Server** windows. The information you define on those two windows is stored in the `cmbcmenv.properties` file for later use by the administration client and other EIP components. **Tip:** if the installation program detects an existing `cmbcmenv.properties` file, you cannot modify any of the fields in **Define LDAP Server** and **Configure LDAP Server** windows

You install the configuration files on the LDAP server in a separate step using an LDAP utility after you install EIP. For more information, see the LDAP server documentation.

You see **Define LDAP Server** and **Configure LDAP Server** only if you:

- Click LDAP server on the System Configuration window and
- Install the Content Manager Version 8 connector and
- Install the federated connector either by itself or as part of an administration of Information Mining database

Start Copying Files

This window shows all components that you selected for installation. Click **Next** to begin installation, or click **Back** to change your component selections. When you click **Next**, EIP displays multiple messages describing the component installation status.

Product Registration

Type the information required to register EIP Version 8.1. Click **Next** to send the registration to IBM, or click **Exit** to send the registration information at a later time.

Installation Complete

Click Yes, I want to reformat my computer now or No, I will reformat my computer later and click **Finish**.

Specific installation windows

This section describes the windows that are specific to some components, such as the administration database. Depending on system design, you might see some or all of these windows. **Tip:** The windows are described in alphabetical order, because the sequence in which you see the windows depends on the components you are installing.

Configure Components for LDAP

In this window, you can choose to enable the system administration database and the client to use information imported from an LDAP server. Click System administration database to enable the database for LDAP, and click

System administration client to enable the client to import users from an LDAP server. You can select one or both options. If your system plan does not include LDAP, click **Next**.

Configure LDAP Server

On this window, you define the LDAP Server Base distinguished name and User authentication attributes. EIP stores the information from this window in `cmbcmenv.properties`. **Tip:** You are not required to install, configure or start any LDAP servers before you define the information required on this window.

Base distinguished name

Select IBM Secureway or Microsoft Active Directory. Type the base distinguished name

Hostname

Type the LDAP server host name.

Port Type the LDAP server port number.

LDAP administration ID

Type the LDAP administration user ID.

Password

Type the LDAP administration password.

Configure Content Manager V8 Server Connection

On this window, you define the information required to connect to the Content Manager Version 8 server. You only see this window if you install the Content Manager Version 8 connector. When the administrator defines and connects to a Content Manager Version 8 server, EIP uses the values you define in this window to connect to the server. By default, EIP copies the information from this window to `cmbicmsrvs.ini` and `cmbicmenv.ini`.

Database name

Type the Content Manager Version 8 database name. If you have cataloged the database, type the alias name in this field.

Schema name

Type the schema name that was assigned to the Content Manager Version 8 database when the database was installed.

Authentication type

If you leave the default setting of Server, then the Content Manager Version 8 database user ID and password is sent to the Content Manager Version 8 server for validation.

If you click Client, no validation is performed by DB2, and the user ID you type to log in to your system allows connection to the Content Manager Version 8 Library Server.

Restriction: when you log in to the client workstation, you must enter a user ID that has DB2 connect privileges.

Database connection ID

You must type the same user ID and password that was defined as the Database connection ID when the Content Manager Version 8 Library Server database was installed.

Enable sign-on

Click True to enable single sign-on, if required by your EIP system plan.

Configure Federated Server Connection

On this window, you define the information required to connect an administration client to the administration database. You see this window if you choose any connector, or if you install the administration client. EIP copies the information from this window to a configuration file named `cmbds.ini` and `cmbfedenv.ini`.

Database name

Type the administration database name.

Schema name

Type the schema name that was assigned to the administration database when the administration database was installed.

Authentication type

If you leave the default setting of Server, then the administration database user ID and password is sent to the administration database for validation.

If you click Client, no validation is performed by the database, and the user ID you type to log in to your system allows connection to the administration database.

Restriction: When you log in to the client workstation, you must enter a user ID that has DB2 connect privileges.

Database connection ID

Type the user ID and password that was defined when the administration database was installed. The user ID and password must be locally defined on the server.

Enable single sign-on

Click True to enable single sign-on, if required by your EIP system plan.

Define LDAP Server

On this window, you define the LDAP server type, hostname, port and authentication methods. EIP stores the information you type in this window in `cmbenv.properties`.

Tip: You are not required to install, configure or start any LDAP servers before you define the information required on this window.

LDAP server type

Select IBM Secureway or Microsoft Active Directory

Hostname

Type the LDAP server host name.

Port Type the LDAP server port number.

LDAP administration ID

Type the LDAP administration user ID.

Password

Type the LDAP administration password.

Destination Path for Content Manager V7 Connector C-APIs

On this window you specify the installation location for the APIs required by the Content Manager Version 7 connector. Click **Browse** to change the default path and file name.

Requirement: You must install the Content Manager Connector C-APIs on the same server where you install the administration client.

Existing Database

You see this window only if you have reused the name of an EIP database or you typed the name of a Content Manager Version 8 Library Server.

Replace the existing database?

If you click this option, DB2 drops the existing database and creates an EIP database.

Tip: If you replace the existing database, the program prompts you twice for confirmation.

Identify Administration Database

The installation program uses the information you enter on this window to connect to DB2, list the databases on the server and compare the name you define in the **Database name** field to existing databases on the server.

Tip: If you are sharing a Content Manager Version 8 database and want to verify the Content Manager Version 8 database name, or to avoid duplicating database names if you are installing a new EIP database, use DB2 Command Line Processor to list the databases on the server. Click Start→Programs→IBM DB2 Command Line Processor and type LIST DATABASE DIRECTORY at the db2 prompt.

If the program *does* detect a database with the same name, the program gives you the option to overwrite the database. If you are adding EIP tables to a

Content Manager Version 8 database, do not overwrite the database. If the program does not detect an existing database with the same name, you are prompted to create a database. Follow the guidelines below when you define the information that identifies the administration database:

Database name

Type the administration database name. **Tip:** To avoid potential problems, do not use the special characters @, #, and \$ in a database name if you intend to have a client remotely connect to a host database. Also, because these characters are not common to all keyboards, do not use them if you plan to use the database in another country. Unless otherwise specified, all names can include the following characters:

- A through Z. When used in most names, characters A through Z are converted from lowercase to uppercase.
- 0 through 9
- @, #, \$, and _ (underscore)

Unless otherwise specified, all names must begin with one of the following characters:

- A through Z
- @, #, and \$
- If you are installing an administration or Information Mining database, accept the default database name, or type the new name.
- If you are sharing a Content Manager Version 8 Library Server database, type the Content Manager Version 8 Library Server database name that was defined when the Library Server was installed.

Schema name

- If you are installing an administration or Information Mining database, you can accept the default name, which is the same name as the Database administration ID default user ID, or change the default schema name. Type the new database name in the Schema name field. The schema name can contain up to eight letters, can contain numerals, and will appear in capital letters.
- If you are sharing a Content Manager Version 8 database, type the Content Manager Version 8 Library Server database schema name that was defined when the Library Server was installed.

A schema is a collection of named objects. A schema also provides a logical classification of objects in the database. A schema can contain objects such as aliases, tables, views, indexes, triggers, distinct types, functions, and packages. A schema can be implicitly created when an

object is created. The schema exists in the database as an object. If a schema name is not specified, the first eight letters of the authorization name of the creator of the object is used as the default.

Database administration ID

The user ID and password you define in this field is used only for database creation and must be locally defined and must have DB2 administration privileges.

Restriction: You must log in to the server with a user ID that has DB2 administration privileges before you can create the administration database.

Database connection ID

The user ID and password you define in this field allows users to connect to the administration database. The user ID must be locally defined.

Image Search Server/Client Configuration

On this window, you define the Image Search server name, host name, Port number and Library Server name. EIP uses the information to locate and connect to the image search server.

Server name

Type the name of the Image Search server that was defined when the server was installed.

Host Name

Type the host name of the Image Search server. Ask the server administrator if you are required to enter a fully-qualified host name.

Port Number

Type the port number that was defined when the server was installed.

Library Server Name

Type the name of the Content Manager Version 7 Library Server database that is associated with Image Search.

Install OnDemand?

Click **Yes** or **No** when the system prompts you to confirm OnDemand client installation.

Network Table Generation (for Content Manager version 7 connector)

On this window, you click one of three options that specify information about the Content Manager Version 7 network table. When the EIP administrator defines a Content Manager Version 7 server, EIP uses the information in the network table to connect to the Content Manager Version 7 server.

Tip: The Content Manager Version 7 connector network table ($x:\langle\text{FRNROOT}\rangle.\text{FRNOLINT.TBL}$) and the CM for AS/400 connector network table ($x:\langle\text{CMBROOT}\rangle.\text{FRNOLINT.TBL}$) are separate files that have identical names.

Generate a new network table

If you click this option and click **Next**, the installation program displays a window where you enter the data required to generate Frnlint.tbl . EIP stores the new network table in $x:\langle\text{FRNROOT}\rangle\backslash\text{Frnlint.tbl}$, where $x:\langle\text{FRNROOT}\rangle$ is the path defined in the Destination Path for Content Manager V7 connector C-APIs window.

Copy an existing network table

If you click this option, the EIP installation program assumes that:

- Frnlint.tbl is already located in the path specified on the Destination Path for Content Manager V7 connector C-APIs window and
- you want to use the existing Frnlint.tbl without regenerating it

Generate a network table later

If you click this option, EIP installation program assumes that you plan to generate a Content Manager Version 7 network table after you install EIP. To generate a network table later, you use the program named frnlnlinc.exe , which is installed in the path specified in the Destination Path for Content Manager V7 Connector C-API's window. EIP stores the new network table in $x:\langle\text{FRNROOT}\rangle\backslash\text{Frnlint.tbl}$.

To use frnlnlinc.exe :

1. Double-click frnlnlinc.exe
2. Type 1 - Add Server Entry.
3. Answer prompts to define server location, server type, operating system information and so forth.

Tip: You can also use frnlnlinc.exe to Delete and Update Content Manager Version 7 server information.

Network Table Generation (for Content Manager version 7 connector)

On this window, you define the stem type, Library Server name, Port number, Host name and TP name associated with the Content Manager Version 7 library server you want to connect to.

Type Click NT, OS/2, AIX or MVS.

Server name

Type the name of the Content Manager Version 7 Library Server.

Port Number

Type the port number that was defined when the Content Manager Version 7 Library Server was installed.

Host name

Type the host name for the server where the Content Manager Version 7 Library Server was installed.

Select Administration Database Options

You see this window only if you are installing an EIP administration database that does not reuse the name of an existing administration database and you are not adding EIP tables to a Content Manager Version 8 database.

Database location

In the database location field, you specify the drive letter where the database will be installed.

Restriction:You cannot install an administration database on a remote network drive.

Enable Unicode

Click Enable Unicode if you are installing Information Mining, or an administration database to which you plan to add Information Mining tables.

Enable User Authentication from an LDAP server

Click this box to enable user authentication from an LDAP server.

Select Version of VisualInfo for AS/400

On this window, you specify the version of the VisualInfo for AS/400 server that you plan to connect to. Click Version 4.3 or Version 5.1.

Text Search Server/Client Configuration

On this window, you define the Text Search Server name, Server host name, Server Port number. When the EIP administrator defines a text search server, EIP uses the information to connect to the server.

User ID

Type the text search user ID.

Server name

Type the name of the text search server.

Server host name

Type the fully-qualified host name of the text search server.

Server port number

Type the port number assigned when the text search server was installed.

Global setting

Click **yes** or **No**.

VisualInfo for AS/400 Network Table Generation

On this window, you define the AS/400 Server name, Hostname and Port number. The information you define is copied to `x:\<CMBROOT>\frnolint.tbl`, where `x:\<CMBROOT>` is the path defined on the Specify Destination window.

Restriction: You must install the AS/400 network table on the same drive where you install the administration client. When the EIP administrator defines an AS/400 server, EIP uses the information in `frnolint.tbl` connect to the AS/400 server.

Server Type the database name that you plan to connect to, for example, `FRNLS400`.

Hostname

Type the host name or TCP/IP address of the VI/400 server.

Tip: Ask the VI/400 administrator if you are required to enter a fully qualified Hostname.

Port Type the port number that was used to install the server.

Upgrade OnDemand?

If the installation program detects an OnDemand client on the server, EIP prompts you decide if you want to upgrade to upgrade to Version 7.1.0.2 of the OnDemand client. Click **Yes** or **No**.

After you install EIP components on Windows

Refer to “Configuring the components on Windows” on page 117 to configure the EIP components.

Chapter 6. Installing Enterprise Information Portal components on AIX

This section explains how to install components on AIX servers. You can install all of the Enterprise Information Portal components, except for the administration client, on AIX.

You can install the components only through the installation wizard. Installation through `smitty` or through `installp` is not recommended, because installation also requires configuration.

Before you install EIP on AIX

If you plan to share the EIP administration database with a Content Manager Version 8 Library Server database, see “Sharing a Content Manager Version 8 database” on page 77.

Install the software prerequisites for the components you are installing and make sure the workstation meets the hardware requirements (see Table 7 on page 26).

Log on to the AIX server with a user ID and password that is `root`. Make sure that `root` belongs to a DB2 admin group.

On the server where you plan to install an administration database, you must create an administrator user ID and password that has DB2 administrator privileges, and another, regular user ID that will be used to connect to the database.

You must have these lines in `.profile` of the administration user ID:

- `CMBROOT=/usr/lpp/cmb`
- `ICMDLL=/<db2fenc1>` (Provide the correct db2 fence id home). For example, `/home/db2fenc1`
- `ICMCOMP=/usr/vacpp/bin`
- `CMCOMMON=usr/lpp/cmb/cmgmt`
- `EXTSHM=ON`
- `PATH=$PATH:$CMBROOT/bin/DB2`
- `LIBPATH=$CMBROOT/lib:$LIBPATH`
- `./home/$DB2INSTANCE/sql/lib/db2profile`

if \$DB2INSTANCE home is the home of DB2 Instance, for example:
/home/db2inst1)

Important: Type the period followed by a space when you define this setting.

- export CMBROOT ICMDLL ICMCOMP CMCOMMON EXTSHM PATH LIBPATH

These three lines should be in /home/db2inst/sqllib/profile.env

```
DB2ENVLIST='LIBPATH CMBROOT ICMDLL ICMCOMP CMCOMMON EXTSHM'
```

```
DB2COMM='tcPIP'
```

```
DB2AUTOSTART='TRUE'
```

On the server where you plan to install a system administration database, the Content Manager Version 8 connector, federated connector, or Information Mining, you must define a DB2 administration user ID and password, and a DB2 connect user ID and password. User IDs can contain from one to eight characters. Type the user ID in lower case letters. Unless otherwise specified, all names can include the following characters:

- A through Z. When used in most names, characters A through Z are converted from lowercase to uppercase.
- 0 through 9
- @, #, \$, and _ (underscore)
- User IDs can contain one to eight characters

Unless otherwise specified, all names must begin with one of the following characters:

- A through Z
- @, #, and \$

If you plan to point remote users to EIP system configuration files installed on a Web server, you must know the Web server URL.

Verify that the installation program and the administration IDs of the selected components are running under the same locale. Otherwise, language-dependent files might not be available for those IDs.

If required, follow steps 1-4 to remove previous versions of EIP.

1. Change directory to /usr/lpp/cmb/bin
2. Type the command ./cmbxuninst.sh. The uninstall wizard (Task Guide GUI) launches and displays the Select Uninstall Components window.

3. Select all components and click **Next**. The Deletion Status window appears. The Deletion Status window displays the current status for each component. The uninstall program sends error messages (if it has any) and uninstall summary to /tmp/frn/frnxinst.log.
4. Click **Exit** when the **Current Status** list displays Finished for all components.

Installing Enterprise Information Portal components on AIX

To install the AIX components:

1. Log on to the server as root and make root as a part of db2 admin group.
2. Export Javahome (JAVA_HOME) and db2home (DB2DIR):

```
export DB2DIR=/usr/1pp/db2_07_01
export JAVA_HOME=/usr/java130
export ICMDDL=/home/db2fenc1
export ICMCOMP=/usr/vacpp/bin
```
3. Run `.$db2insthome/sql1lib/db2profile` where the `$db2insthome` is the home directory of the DB2 instance.
4. Mount the Enterprise Information Portal installation CD.
5. Change to the CD ROM directory: `cd/ cdrom`
6. Change directory to release/ and type:

```
./frnxsetup.sh
```

to launch the installation program.
7. Click **Next** to close the Welcome window.
8. Select the required components and subcomponents. By default, all the components and subcomponents are selected. Type data in the installation windows. See “EIP AIX installation windows” for more information.
9. Follow program prompts to define the settings for the selected components.
10. Click Finish when the Installation Completion window is displayed.
11. Configure the environment variables and classpath (see “Exporting classpath, environment variables on AIX” on page 109)

EIP AIX installation windows

This section describes the AIX installation windows in sequential order. **Tip:** You might not see all the windows. For example, if you do not install the Text Search client, you will not see the two windows associated with the Text Search client.

Component Selection

Select the components and subcomponents and click **Next**. You can install all components at the same time, or select individual components or install all components at the same time.

See below for a list of the installable components.

Table 14. EIP components on AIX

Component	Subcomponent	Component description
System Administration Database	Database	See "Administration" on page 4
Remote Connectors	<ul style="list-style-type: none">• Content Manager V8 Connector• Federated connector• Relational database connector*• Content Manager connector• CM OnDemand connector• ImagePlus for OS/390 connector• CM for AS/400 connector• Domino.Doc connector• Extended Search connector• Information catalog connector	See "Connectors" on page 4.
Local connectors	<ul style="list-style-type: none">• Content Manager V8 Connector• Federated connector*• Relational database connector*• Content Manager connector• CM OnDemand connector• Extended Search connector• Information catalog connector	See "Connectors" on page 4.
Features	<ul style="list-style-type: none">• Information mining• IBM Web Crawler• Text Search client• Image Search client	See "Features" on page 5.
InfoCenter	Information center	See "Information center" on page 6.

Table 14. EIP components on AIX (continued)

Component	Subcomponent	Component description
System Administration Database	Database	See “Administration” on page 4.
Connector Toolkit and Samples	Installs samples and all local and remote connectors.	See “Connector toolkits and samples” on page 6.

System Configuration

EIP Version 8 offers a new option that allows remote EIP components to access system configuration files across a network or Web server.

The default installation for common configuration files is:

```
CM_COMMON=/usr/lpp/cmb/cmgmt
```

The selections you make on the System Configuration window define the location of the system configuration files. For example, the configuration file `cmbicmsrvs.ini` contains data required to connect to and search a Content Manager Version 8 server. The window also gives you the option to point remote components to a datasource file stored on an LDAP server.

Restrictions

- The configuration files do not have to be installed on the network or Web server when you define the path, but the files must be installed before remote users can work with EIP. To install the configuration files on a network or Web server, you can use the EIP installation CD-ROM, or, if you have already installed configuration files on another server, you can copy the `cmgmt` directory to the network or Web server.
- Before remote EIP components can access and use configuration files on a network server, you must configure the following properties:
 - Set up sharing on the configuration file directories and subdirectories.
 - Define user IDs and passwords for the remote users on the server where you installed the shared configuration files.
 - Be sure the user IDs and passwords have read/write privileges. Read/write access is required because the clients and other components update shared configuration files, including log files.
- If you install the configuration files on a Web server, see the Web administrator for information on configuring sharing and read/write parameters for remote EIP users.
- If you are installing the Information Center, you must select Local to install the system configuration files. The Information Center files are installed in `/usr/lpp/infoctr`. Users cannot access the Information Center through a network or Web server.

- If you plan to point remote users to datasource configuration information stored on an LDAP server, you must use a utility specific to your LDAP product to install only the datasource configuration file. See your LDAP administrator for more information. The datasource file is named `cmbds.ini`.
- The option to point remote users to a datasource file stored on an LDAP server is only selectable if:
 - You are installing the Content Manager Version 8 connector and
 - You are installing the federated connector by itself and/or
 - You are installing the administration database, or the Information Mining database, because the federated connector is always installed with those components.

This section describes the fields on the System Configuration window.

Local Click Local to install the configuration files on the local server.

Remote

Click Remote and type the path where you installed, or plan to install, the configuration files on a network server.

Tip: If you have already installed, or plan to install, Content Manager Version 8, EIP can share the Content Manager configuration files across a network. Click Remote and type in the path where you installed or plan to install the Content Manager configuration files.

HTTP web server

Type the URL of the Web server where you installed, or plan to install, the configuration files. The configuration files do not have to be installed on the Web server when you type the URL, but they must be installed before remote users can work with EIP. Contact the Web administrator to learn more about how remote EIP users can connect to and update configuration files on a Web server.

Tip: If you have already installed, or plan to install, Content Manager Version 8, EIP can share the Content Manager configuration files. Type the URL where you installed or plan to install the Content Manager Version 8 configuration files.

Use system configuration

Click this box to begin the process of defining and configuring LDAP server information so you can later install the `cmbds.ini` configuration file. If you click this box and press **Next**, the installation program displays the **Define LDAP Server** and **Configure LDAP Server** windows. The information you define those two windows is stored in the `cmbcmenv.properties` file for later use by EIP components. **Tip:** the installation program detects an existing `cmbcmenv.properties` file, you

will not be able to modify any of the fields in Define LDAP Server and Configure LDAP Server windows.

You install the configuration files on the LDAP server in a separate step using an LDAP utility after you install EIP. For more information, see the LDAP server documentation.

You see **Define LDAP Server** and **Configure LDAP Server** only if you:

- Click LDAP server on the System Configuration window and
- Install the Content Manager Version 8 connector and
- Install the federated connector either by itself or as part of an administration or Information Mining database

Define LDAP Server

On this window, you define the LDAP server type, host name, port and authentication methods. EIP stores the information you type in this window in `cmbenv.properties`. **Tip:** You are not required to install, configure or start any LDAP servers before you define the information required on this window.

LDAP server type

Select IBM Secureway or Microsoft Active Directory

Host name

Type the LDAP server host name.

Port number

Type the LDAP server port number.

LDAP server administration ID

Type the LDAP administration user ID.

Password

Type the LDAP administration password.

Configure LDAP Server

On this window, you define the LDAP Server Base distinguished name and User authentication attributes, search scope and referral method.

Base distinguished name

Type the base distinguished name of the organization and country.

User authentication attribute

Type the attribute, for example, `uid`

Search scope

Click Subtree or Onelevel.

Referral

Click Ignore or Follow.

Confirm LDAP Server Setup Information

This window displays the values you typed in the Define LDAP Server and Configure LDAP Server windows. Click **Next** to accept the data, or click **Back** to modify the data.

Configure Content Manager V8 Server Connection

On this window, you define the information required to connect to the Content Manager Version 8 server. You only see this window if you install the Content Manager Version 8 connector. When the administrator defines and connects to a Content Manager Version 8 server, EIP uses the values you define in this window to connect to the server. By default, EIP copies the information from this window to `cmbicmsrvs.ini` and `cmbicmenv.ini`.

Database name

Type the Content Manager Version 8 database name. If you have cataloged the database, type the alias name in this field.

Schema name

Type the schema name that was assigned to the Content Manager Version 8 database when the database was installed.

Authentication type

If you leave the default setting of Server, then the Content Manager Version 8 database user ID and password is sent to the Content Manager Version 8 server for validation.

If you click Client, no validation is performed by DB2, and the user ID you type to log in to your system allows connection to the Content Manager Version 8 Library Server. **Restriction:** when you log in to the client workstation, you must enter a user ID that has DB2 connect privileges.

Database connection ID

You must type the same user ID and password that was defined as the Database connection ID when the Content Manager Version 8 Library Server database was installed.

Enable sign-on

Click True to enable single sign-on, if required by your EIP system plan.

Content Manager V8 Connector: Confirm Server Setup Information

This window displays the values you typed to configure the Content Manager Version 8 connectivity information.

Click **Next** to accept the values, or click **Back** to modify the values.

Configure Federated Connection

On this window, you define the information required to connect an administration client to the administration database. You see this window if you choose any connector, or if you install the administration client. EIP copies the information from this window to a configuration file named `cmbds.ini` and `cmbfedenv.ini`.

Database name

Type the administration database name.

Schema name

Type the schema name that was assigned to the administration database when the administration database was installed.

Authentication type

If you leave the default setting of `Server`, then the administration database user ID and password is sent to the administration database for validation.

If you click `Client`, no validation is performed by the database, and the user ID you type to log in to your system allows connection to the administration database. **Restriction:** when you log in to the client workstation, you must enter a user ID that has DB2 connect privileges.

Database connection ID

Type the user ID and password that was defined when the administration database was installed. The user ID and password must be locally defined on the server.

Enable single sign-on

Click `True` to enable single sign-on, if required by your EIP system plan.

FED Connector: Confirm Server Setup Information

This window displays the values you typed to configure the federated connector connectivity information.

Click `Next` to accept the values, or click `Back` to modify the values.

Configure system administration database

The installation program uses the information you enter on this window to connect to DB2, list the databases on the server and compare the name you define in the **Database name** field to existing databases on the server.

Tip: If you are sharing a Content Manager Version 8 database and want to verify the Content Manager Version 8 database name, or to avoid duplicating

database names if you are installing a new EIP database, use DB2 Command Line Processor to list the databases on the server. At the prompt, type LIST DATABASE DIRECTORY at the db2 prompt.

If the program detects a database with the same name, the program gives you the option to overwrite the database. If you are adding EIP tables to a Content Manager Version 8 database, do not overwrite the database. If the program does not detect an existing database with the same name, you are prompted to create a database. Follow the guidelines below when you define the information that identifies the administration database:

Database name

Type the administration database name. **Tip:** To avoid potential problems, do not use the special characters @, #, and \$ in a database name if you intend to have a client remotely connect to a host database. Also, because these characters are not common to all keyboards, do not use them if you plan to use the database in another country. Unless otherwise specified, all names can include the following characters:

- A through Z. When used in most names, characters A through Z are converted from lowercase to uppercase.
- 0 through 9
- @, #, \$, and _ (underscore)

Unless otherwise specified, all names must begin with one of the following characters:

- A through Z
- @, #, and \$
- If you are installing an administration or Information Mining database, accept the default database name, or type the new name.
- If you are sharing a Content Manager Version 8 Library Server database, type the Content Manager Version 8 Library Server database name that was defined when the Library Server was installed.

Schema name

- If you are installing an administration or Information Mining database, you can accept the default name, which is the same name as the Database administration ID default user ID, or change the default schema name. Type the new database name in the Schema name field. The schema name can contain up to eight letters, can contain numerals, and will appear in capital letters.

- If you are sharing a Content Manager Version 8 database, type the Content Manager Version 8 Library Server database schema name that was defined when the Library Server was installed.

A schema is a collection of named objects. A schema also provides a logical classification of objects in the database. A schema can contain objects such as aliases, tables, views, indexes, triggers, distinct types, functions, and packages. A schema can be implicitly created when an object is created. The schema exists in the database as an object. If a schema name is not specified, the first eight letters of the authorization name of the creator of the object is used as the default.

Database administration ID

The user ID and password you define in this field is used only for database creation and must be locally defined and must have DB2 administration privileges. **Restriction:** You must log in to the server with a user ID that has DB2 administration privileges before you can create the administration database.

Database connection ID

The user ID and password you define in this field allows users to connect to the administration database. The user ID must be locally defined.

Database Already Exists

You see this window only if you have reused the name of an EIP database or you typed the name of a Content Manager Version 8 Library Server.

Replace the existing database?

If you click this option, DB2 drops the existing database and creates an EIP database. **Tip:** If you replace the existing database, the program prompts you twice for confirmation.

Select System Administration Server Options

You see this window only if you are installing an administration database that does not reuse the name of an existing administration database and you are not adding EIP tables to a Content Manager Version 8 database.

Enable unicode

Click True if you are installing Information Mining, or an administration database to which you plan to add Information Mining tables.

Enable text search

Click this box to enable text search.

Confirm System Administration Database Setup Information

This window displays the values you typed to define the administration database. Click **Next** to accept the values or **Back** to modify the values.

Image Search: Enter Client Setup Information

On this window, you define values that EIP uses to locate and connect to an image search server.

Image Search user ID

Type the name of the Image Search server that was defined when the server was installed.

Image Search Server name

Type the host name of the Image Search server. Ask the server administrator if you are required to enter a fully-qualified host name.

Host name

Type the host name that was defined when the Image Search server was installed.

Port number

Type the port number that was defined when the server was installed.

Control data path

Type the name of the Control data path for the Image Search client.

Image Search Client: Confirm Setup Information

This window displays the values defined for the Image Search client. Click **Next** to accept the values, click **Back** to modify the values.

Text Search: Enter Client Setup Information

On this window, you define values that EIP uses to locate and connect to a Text Search server.

Text Search Client user ID

Type the user ID required to connect to a text search server.

Text Search server name

Type the name of the Text Search server.

Text Search Host Name

Type the fully-qualified Text Search server host name.

Text Search Port number

Type the port number that was defined when the Text Search server was installed.

Text Search Client: Confirm Setup Information

This window displays the values defined for the Text Search client. Click **Next** to accept the values, click **Back** to modify the values.

Installation Status

This window displays the installation status of the components you selected. Click **Next** when the component installation is complete.

Specify RMI Host Name and Port Number

On this window, you define host name and port number for an RMI server and you can also define an RMI host name and port number for a workflow or Information Mining RMI server.

If your system plan includes a master RMI server, type the host name of the master server and the master server port number in the fields in the top half of this window. The default host name is the local server name, and the default port number is 1919. The RMI information is copied to `cmbclient.ini`.

Tip: Ask the server administrator if you are required to enter a fully-qualified host name.

If your system plan includes a separate RMI server for workflow or Information Mining, type the host name and port number for the workflow or Information Mining RMI server in the fields in the bottom half of this window. This RMI information is copied to `cmbsvclient.ini`.

Tip: If your system plans include RMI, you must install and configure the connectors on the RMI server in a separate step before the clients can use the RMI server.

Installation Complete

Click **Finish** to complete installing EIP components on AIX. **Tip:** You are not required to restart the server.

Exporting classpath, environment variables on AIX

You must use a configuration program that exports classpath, environment variables and other information before you can use EIP.

1. `cd` to `/usr/lpp/cmb/bin`
2. Type `./cmbenv81.sh`

Chapter 7. Installing Enterprise Information Portal components on Solaris

The EIP components are installed on Solaris using a command-line installation program named `cmbSuninst.sh`. The program offers six options:

1. Install and configure
2. Install only
3. Uninstall
4. Configure
5. List installed components
6. Quit

Table 15 provides the EIP component installation package names and descriptions. The Uninstall base package and Development Toolkit Base package are installed with all component packages.

Table 15. EIP installation packages

Package	Description
application cmbcomub	Content Manager EIP Version 8.1 Uninstall Base
application cmbcomdtb	Content Manager EIP Version 8.1 Development Toolkit Base
1: application cmbfedc	Content Manager EIP Version 8.1 Federated connector
2: application cmbrdbc	Content Manager EIP Version 8.1 Relational Database connector
3: application cmbdlc	Content Manager EIP Version 8.1 CM V7 connector
4: application cmbodc	Content Manager EIP Version 8.1 OnDemand connector
5: application cmbip390c	Content Manager EIP Version 8.1 ImagePlus for OS/390 connector
6: application cmbas400c	Content Manager EIP Version 8.1 AS/400 connector
7: application cmbddc	Content Manager EIP Version 8.1 Domino .Doc connector
8: application cmbesc	Content Manager EIP Version 8.1 Extended Search connector
9: application cmbicc	Content Manager EIP Version 8.1 Information Catalog connector
10: application cmbcmc	Content Manager EIP Version 8.1 Content Manager Version 8 connector
11: application cmbgcs	IBM Web Crawler

Table 15. EIP installation packages (continued)

Package	Description
12: application cmbikfsv	Content Manager EIP Version 8.1 Information Mining
13: application cmbic	Content Manager EIP Version 8.1 Information Center
14: application cmbdb	Content Manager EIP Version 8.1 system administration database

Before you begin

If you plan to share the EIP administration database with a Content Manager Version 8 library server database, see “Sharing a Content Manager Version 8 database” on page 77.

Log on to the Solaris server with a user ID and password that is root . Make sure that root belongs to a DB2 admin group.

Verify that the prerequisites are installed on the Solaris server. If the installation program does not detect the prerequisites, you receive a message describing the missing prerequisite and the installation program terminates.

Tip: If you install information mining the program checks for information mining prerequisites during installation and quits if the prerequisites are not found.

The DISPLAY environment variable must be set before you begin installation.

To install and configure EIP components, log in to the Solaris with a user ID that has root and database administrator authority. To only install components, log in to the Solaris server with a root user ID.

On the server where you plan to install an administration database, you must create an administrator user ID and password that has DB2 administrator privileges, and another, regular user ID that will be used to connect to the database.

You must have these lines in .profile of the administration user ID:

- export CMBROOT=/opt/IBMcmb
- export ICMDLL=/export/home/<db2fencehome>
- export ICMCOMP=/opt/SUNWspro/bin
- export CMCOMMON=/opt/IBMcmb/cmgmt
- export EXTSHM=ON
- export PATH=\$PATH:\$CMBROOT/bin/DB2

- export \$LD_LIBRARY_PATH=\$CMBROOT/lib:\$LD_LIBRARY_PATH
- . /export/home/\$DB2INSTANCE/sqllib/db2profile

Tip: Note the period and the space after it.

These lines should be in /export/home/\$DB2INSTANCE/sqllib/profile.env:

```
DB2ENVLIST='LIBPATH ICMROOT ICM DLL ICMCOMP CMCOMMON EXTSHM'
```

```
DB2COMM='tcPIP'
```

```
DB2AUTOSTART='TRUE'
```

```
DB2_RR_TO_RS='YES'
```

Run ". \$db2insthome/sqllib/db2profile" where the \$db2insthome is the home directory of the DB2 instance.

Export Javahome (JAVA_HOME) and db2home (DB2_HOME):

```
export DB2_HOME=/opt/IBMDB2/V7.1
```

```
export JAVA_HOME=/usr/j2sdk1_3_1_02
```

Installing EIP component packages

To start the installation program, cd to the installation directory and type ./cbsuninst.sh at a command prompt. The program checks to see if the DISPLAY environmental variable is set. You will be presented with a license agreement GUI interface. Select **ACCEPT** to continue the installation or **DECLINE** to exit

If the prerequisites are located, the program displays six installation options:

1. Install and configure
2. Install only
3. Uninstall
4. Configure
5. List installed components
6. Quit

Type an installation option number and follow system prompts. The default option is 1, Install and configure.

1. Install and configure

When you type 1. Install and Configure the program prompts you to select the installation and configuration type:

1. Install and configure all components.

2. Install and configure selected components.
3. Restart
4. Quit

Type 1 or 2 to begin installing and configuring EIP component packages.

The program displays the component installation packages in Table 15 on page 111. If you select installation option 2. Install and configure selected components, the program provides an input line to enter the corresponding numbers of the packages to be installed and configured. Use spaces or commas to separate the package numbers.

Follow system prompts to verify and accept all or selected component packages. The program installs packages to the server without user input. The program does prompt you for configuration information.

If all packages are installed and configured without errors, the installation was successful. If the installation fails, the program notifies you, uninstalls selected packages and sends the output to a log file.

The program writes all installation and uninstallation information to a console and also to a log file in `/tmp/cmb/cmbinst.log`

2. Install Only

When you select 2. Install Only the program prompts you to select the installation type:

1. Install all components.
2. Install selected components.
3. Restart
4. Quit

Type 1 or 2 to begin installing EIP component packages. The program displays the component installation packages in Table 15 on page 111. If you selected option 2, the program provides an input line to enter the corresponding numbers of the packages to install. Use spaces or commas to separate the package numbers.

Follow system prompts to verify and accept all or selected component packages. The program adds packages to the server without any user input.

If the packages are installed without errors, the installation was successful. If the installation fails, it will continue to install until all selected components are attempted. and sends the output to a log file. The program writes all installation information to a console and also to a log file in `/tmp/cmb/cmbuninst.log`.

3. Uninstall

When you select option 3, Uninstall, the program prompts you to select the uninstallation type.

1. Uninstall all components
2. Uninstall selected components
3. Restart
4. Quit

Type 1 or 2 to begin uninstalling EIP component packages. If you select option 2, the program provides an input line to enter the corresponding numbers of the packages to uninstall. Use spaces or commas to separate the package numbers.

If uninstallation of any selected components fails, the program continues to uninstall until all selected components are attempted.

4. Configure

When you select option 4, Configure, the program prompts you to select the configuration type:

1. Configure all components.
2. Configure selected components.
3. Restart
4. Quit

Type 1 or 2 to begin configuration of the installed components. The configuration program requires user input.

When configuration is complete, the program displays Configuration Completed and prompts you to check the log file for possible errors:
`/tmp/cmb/cmbinst.log`

5. List installed components

The installation program displays all EIP components and places an asterisk next to the components already installed. The program then exits.

6. Quit

The installation program exits when you quit.

Exporting classpath, environment variables on Solaris

You must use a configuration program that exports classpath, environment variables and other information before you can use EIP.

1. `cd` to `/opt/IBMcmb/bin`
2. Type `./cmbenv81.sh`

Chapter 8. Configuring Enterprise Information Portal components

This section explains how to configure the EIP components.

Configuring the components on Windows

This section explains how to connect the administration client to a local and a remote administration database and how to start the services and utilities required to support workflow.

Important: You must know the local and/or remote database connect-only or administrator user ID and password of the database you are connecting to. The default administrator information is ICMADMIN/password. The administrator and connect-only user IDs must be created on the local administration client workstation before you can log on to either a local or remote database.

Connecting the administration client to a local administration database

1. Click **Start-->Programs-->Enterprise Information Portal for Multiplatforms 8.1-->Administration**
2. Select the local database from the drop-down list in the Server field.
3. Type the administrator user ID and password and press OK.
4. The system administration client opens. **Tip:** If you used EIP First Steps, the sample databases are displayed in the client.

Connecting the administration client to a remote EIP database

There are two ways to connect an EIP administration client to a remote database:

- Connect through an RMI server (see Chapter 9, “Configuring an RMI server” on page 145).
- Define a connection using the Server Configuration Utility. The Windows-only utility configures connections to remote EIP databases installed on Windows, AIX, and Solaris.

Using the Server Configuration Utility

The server configuration utility prompts you for connectivity information (port number, hostname, etc.) about the remote EIP or Content Manager database and stores the data in `cmbds.ini`.

Prerequisites: To use the Server Configuration Utility, you must install these products on the same Windows workstation:

- EIP prerequisites for the administration client
- EIP administration client
- EIP local connectors

See the DB2 installation documentation for information about installing only DB2 CCA.

1. Click **Start-->Programs-->IBM Enterprise Information Portal for Multiplatforms-->Server Configuration Utility**.
2. Type the information in the fields (see Table 16).

Table 16. Server configuration utility

Field	Information	Notes
Server	Select database type, either Content Manager or EIP.	Server means the database type, not the name of the server where the database is installed. Tip: You can use the administration client to manage both database types only if your system includes Content Manager and EIP administration clients on the same machine.
Server name	Type the alias name of the database you are connecting to.	An alias provides a unique name that identifies the remote database on your workstation. Alias names have an eight-character limit. For example, if the remote database name is ICMNLSDB, an alias could be REMOTE1.
Schema name	Type the schema name assigned when the remote database was created.	ICMADMIN is the default schema name for the EIP and Content Manager databases.
Host name	Type the name of the computer where the remote database was installed.	Type the fully-qualified hostname or type an IP address of the computer where the remote database is installed.
Operating system	Select an operating system from the drop-down box.	Defines the operating system where the database is installed.
Port number	Type the port number assigned to the remote database.	50000 is the default port number for EIP and Content Manager databases installed on Windows, AIX and Solaris.
Remote database name	Type the name of the remote database. Use capital letters.	ICMNLSDB is the default name for the EIP and Content Manager databases.

Table 16. Server configuration utility (continued)

Field	Information	Notes
Node name	Type the node name of the remote EIP or Content Manager database.	The node name is a unique name assigned to the remote database, similar to the alias name you create for the remote database. To find the node name of a database installed on a Windows, AIX or Solaris server: <ol style="list-style-type: none"> Open a db2 command line session. At the db2=> prompt, type LIST NODE DIRECTORY DB2 displays node names and other data for all databases installed or defined on the remote server. To locate database node names on OS/390 servers, see the DB2 for OS/390 documentation.
Enable single sign-on	Click if single sign-on was enabled during database installation.	The default setting is unchecked (disabled).
Security options	Click client authentication if that option was selected during database creation.	The default setting is Server.

3. Click OK.
4. Test the connection to the remote database.
 - Click **Start-->Programs-->Enterprise Information Portal for Multiplatforms 8.1-->Administration**.
 - Select the remote database name from the drop-down list in the Server field. The name matches the alias you defined in the Server Configuration Utility.
 - Type the remote database administrator or connect-only user ID and password to and click OK.

Configuring workflow services and utilities on Windows

Before you can use workflow, you must start workflow services and utilities. The steps you take depend on how you installed MQSeries products.

Restriction: Because the administration database contains the functionality required to use workflow, the administration database must be installed on a

server that has DB2 Universal Database, MQSeries Server and MQWorkflow. The administration client, where you administer workflow, can be local or remote.

Configuring MQSeries if you used EIP custom installation

See “Configuring MQSeries Workflow on Windows” on page 66.

Configuring MQSeries Workflow if you did not use EIP custom installation

1. Start the MQSeries server as an NT service.
2. Create default users by importing CMBWFAdmin.fdl into the MQSeries Workflow database. Run the following utility from a command prompt:
`fmcibie -i CMBWFAdmin.fdl -uadmin -ppassword -o`
3. Start the user exit utility. In a command window, run
`fmcxspea -u=ADMIN -p=password -f`
4. Start the upes utility. In a command window, run
`cmbupes81.bat`

Setting the environment variables for the development toolkit

If you installed the connector toolkit and samples, you must set the environment before you can use the samples.

On Windows, click **Start** → **Programs** → **IBM Enterprise Information for Multiplatforms 8.1 Development Window** →

You only have to set the environment variables once.

Defining an EIP administration server

This section describes how to test the connection to the EIP administration server (database).

Tip: Server and database are used interchangeably.

1. Click **Start** → **Programs** → **IBM Enterprise Information for Multiplatforms 8.1** → **Administration**.
2. Select the database name.
3. Type the database administrator ID, or the database connect user ID and password you used to catalog or add the database.
4. Click **OK**.
5. The administration client window appears and the remote database name is displayed in the left pane.

To establish a connection with the administration database and create an icon for it, complete the following steps:

1. Logon to the administration client.
2. From the <database name> tree, right-click **Server** and click **New**. The New Server Connection window opens.
3. From the list of content servers, select **DB2**. The New Server: DB2 window opens.
4. Click the **Initialization Parameters** tab.
5. In the **Connect string** field, type SCHEMA=<schema name defined when server was installed>.
6. Click **Test Connection**.
7. If EIP cannot log in to the database using the user ID and password you entered when logging in to the client, EIP prompts you for the user ID and password for the administration database.
 - a. In the **User ID** field, type <user ID defined when database was installed>.
 - b. In the **Password** field, type <password defined when database was installed>.
 - c. Click **OK** to log on and close the window.

The following message displays: The connection to <database name> was successful. Click **OK**.

8. Click **OK** to close the New Server: DB2 window and create the <server name> icon.

Congratulations! You have successfully installed the Enterprise Information Portal server with the DB2 connector.

To access the sample metadata from Enterprise Information Portal, complete the following steps:

1. From the Enterprise Information Portal administration client main window, right-click the <server name> icon and click **Refresh Server Inventory**.
2. If you are not already logged on to the Sample database, the Logon Sample window opens. Log on to the <database name> database:
 - a. In the **User ID** field, <user ID defined when database was installed>.
 - b. In the **Password** field, type <password defined when database was installed>.
 - c. Click **OK** to log on and close the window.

The following message displays: The server inventory has been refreshed. Click **OK** to continue.

3. Click **Tools** → **Server Inventory Viewer**. The Server Inventory Viewer opens, displaying the sample data.
4. Close the Server Inventory Viewer.
5. Close the administration client main window.

Configuring workflow on AIX and Solaris

Before you can use workflow, you must start workflow services and utilities. The steps you take depend on how you installed MQSeries products.

Restriction: Because the administration database contains the functionality required to use workflow, the administration database must be installed on a server that has DB2 Universal Database, MQSeries Server and MQSeries Workflow.

Configuring MQSeries if you used EIP custom installation

1. Verify that MQSeries is running as an NT service.
2. Change to the directory where you installed workflow.
3. Using a command prompt, run `./cmbwfstart.sh`
4. Start the user exit utility. In a command window, run `fmcxspea -u=ADMIN -p=password`. The user exit utility provides workflow batch processing.

Configuring MQSeries if you did not use EIP custom installation

1. Start the MQSeries server.
2. Create default users by importing `CMBWFAdmin.fdl` into the MQSeries Workflow database. Run the following utility from a command prompt:
`fmcibie -u ADMIN -p password -i CMBWFAdmin.fdl`
3. Remove (or comment out) the statement:
`set PATH=C:\progra~1\MQSer~1\bin\MQServer;%PATH%`

in the following files:

- `cmbenv71.bat`
- `cmbfestart71.bat`
- `cmbsvregist71.bat`

4. Start the upes utility:
`./upes81.sh`
5. Start the user exit utility. In a command window, run `fmcxspea -u=ADMIN -p=password`.

Configuring the Web Application Server for the EIP tag library and servlet

This section explains how to configure the tag library and servlets installed with the connector toolkit. The servlets and tags help you write EIP applications.

Before you can configure the servlets and tags, you must install and configure IBM WebSphere Application Server Version 4.0. See the WebSphere documentation for hardware and software requirements.

Building the WebSphere Application Resource (WAR) file

The following must be installed and operating on the server before configuring the tag library and servlet: IBM WebSphere Application Server V4.0 (see the WebSphere documentation for hardware and software requirements)

Creating the web module

1. Start the WebSphere Administrator's Console.
2. From the console menu, select **Tools**→**Application Assembly Tool (AAT)**. You see a window displaying different wizards. Click **Cancel**.
3. Create a new web module by selecting **File**→**New**→**Web Module**.
4. Specify `eip` for the display name. Click **Apply**.
5. Select **File**→**Save As** and save the file as `cmbroot\samples\modules\eip.war`

Adding the jar files

1. Expand the Files category. You will see Class Files, Jar Files and Resource Files.
2. Right-click Jar Files and select **Add Files**. You will see the Add Files window.
3. Click **Browse**. Select `cmbroot` as the root directory.
4. Click subdirectory `LIB` so that `LIB` appears in the **File** name box.
5. Click **Select**. From the upper right box in the Add Files window, select the files listed below. **Tip:** To select more than one file, hold down the **Ctrl** key and click the file.

```
cmb81.jar  
cmbcm81.jar  
cmbsdk81.jar  
cmbServlets81.jar  
cmbtag81.jar  
cmbview81.jar  
esclisrv.jar  
essrv.jar
```

6. Click **Add**. The files appear in the Selected Files box.

7. Click **OK**. You should see the jar files in the upper right window of the AAT.

Adding the JSP files

1. Right-click Resource Files. Select Add Files. You see the Add Files window.
2. Click **Browse**.
3. Select cmbroot as the root directory.
4. Click the subdirectory samples so that samples appears in the File name box below.
5. Click **Select**. In the upper right window, select jsp.
6. Click **Add**. The files appear in the Selected Files box.
7. Click **OK**. You should see the JSP and HTML files in the upper right window of the AAT.

Adding the tag library

1. Right-click **Resource Files**, and select **Add Files**. You will see the Add Files window.
2. Click **Browse** and select cmbroot as the root directory.
3. Click the subdirectory LIB so that LIB appears in the File Name box below.
4. Click **Select**. In the upper right window, select tld.
5. Click **Add**. The file taglib.tld will appear in the Selected Files box.
6. Click **OK**. You should see the taglib.tld along with the JSP files in the upper right window of the AAT.

Defining an alias for the tag library

1. In the left window of the AAT, right-click **Tag Libraries** and select **New**.
2. Specify cmb for the Tag Library file name. Specify taglib.tld for the tag library location. Click **OK**.

Defining the controller servlet

1. In the left window of the AAT, right-click Web Components and select **New**.
2. Specify control as the Component name. Specify control servlet as the Display name. Under Component Type, make sure that the **Servlet** radio button is selected.
3. Click **Browse** button to the right of the Class name field. In the left window, expand WEB-INF, expand lib, expand cmb servlets81.jar to com→ibm→mm→servlets.
4. Click the servlets subdirectory. In the right window, select CMBControlServlet.class.
5. Click **OK**. You should see com.ibm.mm.servlets.CMBControlServlet in the Class name field.

Now define the initialization parameter that specifies the location of the properties file. You should see control servlet under Web Components in the left window.

6. Expand control servlet. Right-click Initialization Parameters, and select **New**.
7. Specify `servletPropertiesURL` as the Parameter name.
8. Specify `/com/ibm/mm/servlets/cmbServlet.properties` as the parameter value.
9. Click **OK**.

Defining the servlet mapping for the controller servlet

1. In the left window of the AAT, right-click Servlet Mapping. Select **New**.
2. Specify `/jsp/servlets/process` as the URL pattern.
3. Select `control` as the Servlet.
4. Click **OK**.
5. Select **File**→**Save** to save the WAR file.

Building the Enterprise Application Resource file

In this section, you configure the components used to build the Enterprise Application Resource (EAR) file.

Building the EAR file

1. Close the WAR file by selecting **File**→**Close**.
2. Select **File**→**New**→**Application**.
3. Specify `eip.ear` as the Display name, and click **Apply**.
4. Add the WAR file. Right-click the Web Modules category and select **Import**.
5. Select `cmbroot\samples\modules\eip.war`. Specify `/eip` as the Context root. Click **OK**.
6. Select **File**→**Save As**, and specify `cmbroot\modules\eip.ear` as the name.

Installing the application

1. Close the AAT.
2. Start the WebSphere Administration Console.
3. Select **Console**→**Wizards**→**Install Enterprise Application**. Make sure your node is selected in the **Browse for file on node** field.
4. Select **Install Application (*.ear)**.
5. Click the **Browse** button to the right of the Path field.
6. Select `cmbroot\samples\modules\eip.ear`. Click **Open**. You should see `C:\cmbroot\SAMPLES\modules\eip.ear` in the Path field. Specify `eip.ear` as the Application name.

7. Click **Next** several times until you see the Selecting Application Servers page. You can select the Default Server or another if you have another defined.
8. Click **Next**, then click **Finish**.

Running the servlet

1. Stop and restart your application server under Nodes->*your node*->Application Servers->*your server*.
2. Open your browser and point to <http://localhost:9080/eip/jsp/main.html>, and follow the links to either the tag library samples or the servlet actions. You may also access either directly by pointing to <http://localhost:9080/eip/jsp/servlets/actions.html> for the list of available servlet actions or by pointing to <http://localhost:9080/eip/jsp/taglib/index.html> for the list of available tags.

Using the Panagon Image Services (IDMIS) 3.5.0 content server

You need to install the Panagon Image Services (IDMIS) 3.5.0 and the Panagon Image Services Toolkit 3.5.0. See Content Connector For Panagon Image Services Install Guide. You also need to install two fixes:

- SCR 133231 - Fix for wal_sysv.dll and wal_ipc.exe
- SCR 133232 - Fix for wal_sec.dll

These fixes are available from the FileNET Corporation. If you have the proper licenses, you should be authorized to ftp the fixes from the FileNET website, or else you can contact your FileNET sales representative.

You also need to do the following:

1. Add the following jar files to the eip.ear file. Follow the same procedure as in "Building the WebSphere Application Resource (WAR) file" on page 123.
 - cmbfn81.jar
 - cmbfnc81.jar
2. Go to the WebSphere Administration Console. Select your server under Application Servers. On the right side, under the General tab, press the Environment button. You should see the Environment Editor. Press Add. Under Name, add "PATH". Under Value, add `c:\fnsw\client\bin;c:\fnsw\client\shobj`. Press Apply. Stop and restart the server.

Tip: This step is not necessary if the information is already in the Path system environment variable.

Using the Domino.Doc content server

You must install the Domino.Doc desktop client.

After applying service

If you apply an EIP service update, you must refresh the jar files in eip.war. Copy the following jar files from cmbroot\lib into websphere\appserver\installedapps\eip.ear\eip.war\WEB-INF\lib:

- cmb81.jar
- cmbcm81.jar
- cmbsdk81.jar
- cmbservlets81.jar
- cmbtag81.jar
- cmbview81.jar
- esclisrv.jar
- essrv.jar

Then stop and restart the application server.

Configuring and running IBM Web Crawler for the Web

This section describes how to configure and run IBM Web Crawler for the Web. IBM Web Crawler for the Web accesses HTTP, FTP, news or file servers and creates summaries of HTML documents and other objects. Summaries are files, one per document or object, containing metadata and full text.

A basic configuration

This section contains instructions that explain how you can edit an IBM Web Crawler configuration file in XML format. Two sample configurations are provided to help you get started:

- A config-db2.xml file to use IBM Web Crawler with DB2 UDB.
 - A config-sample.xml file to use IBM Web Crawler without DB2 UDB.
1. Open a command prompt.
 2. Change directory to the run subdirectory where you installed IBM Web Crawler. For example, if you installed IBM Web Crawler on a Windows server, type `cd x:<cmbroot>\gcs\run`. If you installed IBM Web Crawler on AIX, type `cd /usr/lpp/cmb/gcs`.
Tip: It is very important to keep a copy of the original file. An error in the file can break IBM Web Crawler. Be careful while editing.
 3. To run IBM Web Crawler with a DB2 UDB database (more scalable, slower), edit the config-db2.xml file. For example, type `edit config-db2.xml` in the command prompt.
 4. To run IBM Web Crawler without a DB2 UDB database (less scalable, faster), edit the config-sample.xml file. For example, type `edit config-sample.xml` in the command prompt.

To run crawls of n URLs without a database, you need approximately $n/1000$ MB of RAM on the machine to contain crawled URL metadata. For example, to crawl 500,000 URLs you need 512 MB of RAM. To take advantage of this memory, edit `crawlweb.bat` file and increase the value of `JVMXmx`.

Configuring the IBM Web Crawler DB2 option

To configure the DB2 option you must create a database. This requires DB2 administrator authority. You may need to switch to the DB2 administrator account. You can name the database as DB2 allows, but if your database name is not `gcs`, you must update the `dbname` in the Web Crawler configuration file.

If you have database administrator authority, you can run this command in a DB2 command prompt to create the database:

```
db -createdb <user><password>[database_name]
```

If you do not specify a database name, `gcs` is used. Once the database is created, add IBM Web Crawler tables by issuing the command:

```
db -createtables<user><password >[database_name]
```

IBM Web Crawler database and table creation must be complete to use DB2 with IBM Web Crawler.

The following configuration file settings (in the `urlpool-config` section) are required to use your new database:`dbname`:

- The name of the database (as created above): Example `gcs`.
- User name: The user name, for example: `db2admin`
- Password: The user password, for example: `db2admin`.

Set the database, username, and password properties to the appropriate values. Do not change the cache size or the driver. Continue editing the file to set the crawl scope for your system.

Setting the crawl scope

These configuration file settings are required to establish the crawl scope regardless of whether you use DB2 or not.

Check the following settings in the `crawler-config` section and set these entries appropriately for your needs.

seed list

One or more starting absolute URLs. The URL must be available. Verify using your browser, for example: `http://www.<mysite>.com/`

content-type-pattern-list

Crawl URL found on pages only if any file extension matches these patterns, for example: htm*

include-pattern-list

Crawl URL found on pages only if they match these patterns, for example: <mysite>.com

You can also set these entries:

recursion-depth

The maximum distance in links to crawl from any starting point. Use -1 for unlimited depth.

exclude-pattern-list

Crawl URL found on pages only if they do not match these patterns, for example: *cgi-bin*

system properties

To crawl through a firewall from an un-socksified machine you will also need to set the socksProxy values in this file.

Starting IBM Web Crawler

If you edited the .xml configuration file, save it.

To start the IBM Web Crawler, use the crawlweb batch file and a configuration file. Open a command prompt and type:

- For Windows: crawlweb.bat<CONFIGFILE>
- For AIX: crawlweb.sh<CONFIGFILE>

To run with DB2 UDB, type: crawlweb config-db2.xml and press Enter. To run without DB2 UDB, type: crawlweb config-sample.xml and press Enter.

Tip: Plan to report crawl/summarize progress on a regular basis. As your targets are crawled, summaries are written to the location configured in summaries-dir. The default summarizers write the original object plus a metadata prologue as .html files in a tree. During or after crawling, you can examine the log-file for additional information.

For more information about using IBM Web Crawler, see *Managing Enterprise Information Portal*.

Installing and configuring Information Mining

This section describes how to install and configure the Information Structuring Tool and the JSP sample using WAS.

Installation scenarios

The Information Structuring Tool and the Information Mining Java Server Page application can be deployed on a single workstation, or on two different workstations. In the following sections, the installation descriptions are written for the Information Structuring Tool. For the JSPs, replace Information Structuring Tool by JSPs.

- For Windows:
 - <CMBROOT> is the value of the corresponding environment variable, for example, d:\cmbroot
 - <DB2HOME> is the value of the corresponding environment variable, for example, d:\sql11b
- For AIX:
 - <DB2HOME> is the directory where DB2 is installed, for example, /usr/lpp/db2_07_01
- For Solaris:
 - <DB2HOME> is the directory where DB2 is installed, for example, /opt/IBMdb2/V7.1

Single workstation

1. Install the EIP server with the information mining feature.
2. Install the WAS and ensure that it is using the required JDK. Refer to the readme for details.
3. Deploy the Information Structuring Tool.

Client-server setup

If the Information Structuring Tool and the information mining feature are deployed on different workstations, carry out the following:

On workstation A:

- Install the EIP server with the information mining feature.
- For Windows:
 - Open file c:\Program Files\IBM\CMGMT\cmbsvregist81.bat
 - Locate the line starting with set CLASSPATH=
 - Check that the CLASSPATH contains the following entries:
<DB2HOME>\java\db2java.zip;%JARDIR%\cmbcm81.jar;
 - Save cmbsvregist81.bat
- For AIX:
 - Open file /usr/lpp/cmb/cmgt/cmbsvregist81.sh
 - Locate the line starting with export CLASSPATH=

- Check that the CLASSPATH contains the following entries:
<DB2HOME>/java/db2java.zip:\$JARDIR/cmbcm81.jar:
- Save cmbsvregist81.sh
- For Solaris:
 - Open file /opt/IBMcmb/cmgt/cmbsvregist81.sh
 - Locate the line starting with export CLASSPATH=
 - Check that the CLASSPATH contains the following entries:
<DB2HOME>/java/db2java.zip:\$JARDIR/cmbcm81.jar:
 - Save cmbsvregist81.sh

On workstation B:

- Install the IBM WebSphere Application Server (WAS).
- Install the EIP client.
- Locate the files cmbsvclient.ini, cmbsvcs.ini and cmbds81.ini at:
 - For Windows: c:\Program Files\IBM\CMGMT
 - For AIX: /usr/lpp/cmb/cmgt
 - For Solaris: /opt/IBMcmb/cmgt
- In file cmbsvclient.ini, RemoteHost must be set to the name of **workstation A**.
- In file cmbsvcs.ini, IKF must be **remote**.
- Copy all three files to the working directory of the application server where the Information Structuring Tool will be deployed:
 - For WAS AEs:
 - For Windows: <WAS_HOME>\bin
 - For AIX: /usr/WebSphere/AppServer/bin
 - For Solaris: /opt/WebSphere/AppServer/bin
 - For WAS AE:
 - Open an administrative console.
 - Select the application server in the tree view.
 - Select the **General** tab. The directory can be found under "Working Directory".
- Deploy the Information Structuring Tool.

Configuring the Web Application Server for the Information Structuring Tool

Before you can install the Information Structuring Tool on the Websphere Application Server Advanced Edition (WAS AE) or Advanced Edition Single Server (WAS AEs), you need the following information:

- <Node> is the name of the workstation where the Information Structuring Tool is to be installed

- <AppServer> is the Application Server on <Node> where the Information Structuring Tool is to be installed, for example, Default_Server
- For WAS AE: <AdminServer> is the name of the Administrative Server for Node where the Information Structuring Tool is to be installed
- <VirtualHost> is the name of the virtual host the Information Structuring Tool is to run on, for example, default_host
- <WebPath> is the path portion of the URL used to access the Information Structuring Tool. This path **must** end with /IST. For example, if the Information Structuring Tool is installed on the server prefix and <WebPath> is /webApps/IST, the URL to access the Information Structuring Tool is http://prefix:9080/webApps/IST/login.html
- <WAS_HOME> is the directory where the WAS is installed on <Node>, for example, d:\WebSphere\AppServer on Windows, /usr/WebSphere/AppServer on AIX and /opt/WebSphere/AppServer on Solaris.

WAS AEs

After installing the WAS AEs and EIP, open the WAS Administrator's Console and carry out the following:

1. From the console menu, select **Nodes**→<Node>→**Application Server**→<AppServer>→**Process Definitions**→**JVM Settings**
2. If the WAS and EIP are on the same workstation, enter the following Classpath information:
 - For Windows:


```
<CMBROOT>\ikf\lib
<CMBROOT>\ikf\lib\ikf.jar
<CMBROOT>\ikf\cmb81.jar
<CMBROOT>\lib\cmsdk81.jar
C:\Program Files\IBM\CMGMT
<CMBROOT>\lib\cmblog4j81.jar
<CMBROOT>\lib\log4j.jar
<DB2HOME>\java\db2java.zip
```
 - For AIX:


```
/usr/lpp/cmb/ikf/lib
/usr/lpp/cmb/ikf/lib/ikf.jar
/usr/lpp/cmb/lib
/usr/lpp/cmb/lib/cmb81.jar
/usr/lpp/cmb/lib/cmsdk81.jar
/usr/lpp/cmb/cmgmt
/usr/lpp/cmb/lib/cmblog4j81.jar
/usr/lpp/cmb/lib/log4j.jar
<DB2HOME>/java/db2java.zip
```
 - For Solaris:


```
/opt/IBMcmb/ikf/lib
/opt/IBMcmb/ikf/lib/ikf.jar
/opt/IBMcmb/lib
/opt/IBMcmb/lib/cmb81.jar
/opt/IBMcmb/lib/cmsdk81.jar
```

```
/opt/IBMcmb/cmgmt
/opt/IBMcmb/lib/cmblog4j81.jar
/opt/IBMcmb/lib/log4j.jar
<DB2HOME>/java/db2java.zip
```

If the WAS and EIP are on different workstations, the Classpath information is as follows:

- For Windows:

```
<CMBROOT>\ikf\lib\ikf.jar
<CMBROOT>\lib\cmbcm81.jar
<CMBROOT>\lib\cmb81.jar
```
- For AIX:

```
/usr/lpp/cmb/ikf/lib/ikf.jar
/usr/lpp/cmb/lib/cmbcm81.jar
/usr/lpp/cmb/lib/cmb81.jar
```
- For Solaris:

```
/opt/IBMcmb/ikf/lib/ikf.jar
/opt/IBMcmb/lib/cmb81cm.jar
/opt/IBMcmb/lib/cmb81.jar
```

3. Set "Maximum Heap Size" to 512.
4. Click **OK** at the bottom of the page.
5. Save your configuration settings by clicking **Save** on the top bar of the WAS administrative console.
6. Click **Exit** on the top bar of the console to exit.
7. Shut down the WAS by:
 - Switching to the directory <WAS_Home>\bin in a command shell
 - Entering:
 - For Windows: stopserver
 - For AIX: ./stopServer.sh
 - For Solaris: ./stopServer.sh
8. In the command shell, enter (on one line):
 - For Windows: seappinstall -install <CMBROOT>\ikf\IST\IST.war
 - For AIX: ./SEAppInstall.sh -install /usr/lpp/cmb/ikf/IST/IST.war
 - For Solaris: ./SEAppInstall.sh -install /opt/IBMcmb/ikf/IST/IST.war

You are prompted as follows:

- Please specify an application display name: Enter IST
- Please specify a context root: Enter your <WebPath>
- Do you wish to precompile all JSPs in this application: Enter n
- Do you wish to precompile individual Web Applications: Enter n

- Please specify a virtual host for the following Web applications, IBM Information Structuring Tool: Enter your <VirtualHost>
9. After deployment,
 - Open a command shell
 - Switch to the IST source directory at:
 - For Windows: <CMBROOT>\ikf\IST\bin
 - For AIX: /usr/lpp/cmb/ikf/IST/bin
 - For Solaris: /opt/IBMcmb/ikf/IST/bin
 - At the command prompt, enter:
 - For Windows: ISTconfig and press **Enter**.
 - For AIX: ./ISTconfig.sh and press **Enter**.
 - For Solaris: ./ISTconfig and press **Enter**.
 10. IST uses an EIP database named icmnlbdb

If your database name is different:

 - Switch to the directory where the IST is deployed, for example, for Windows <WAS_HOME>\installedApps, for AIX /usr/WebSphere/AppServer/installedApps and for Solaris /opt/WebSphere/AppServer/installedApps
 - Switch to the directory IST.ear and open the file IST.war/WEB-INF/web.xml
 - Search for icmnlbdb and rename to your EIP database.
 - Save the file.
 11. Restart the WAS in the command shell by entering:
 - For Windows: startserver
 - For AIX: ./startServer.sh
 - For Solaris: ./startServer.sh
 12. The URL to access the Information Structuring Tool is http://host_alias/WebPath/login.html where:
 - host_alias is one of the aliases specified for VirtualHost. To find this value:
 - Open the WAS Administrator’s Console
 - From the console menu, select **Virtual Hosts** → **<VirtualHost>** → **Aliases**
 - Each entry in the list (Host Name and Port) is a valid host alias, for example, prefix:9080
 - <WebPath> you specified during installation, for example, /webApps/IST

WAS AE

After installing the WAS AE and EIP, open the WAS Administrator’s Console and carry out the following:

1. From the console menu, select **Nodes**→<Node>→**Application Server**→<AppServer>.
2. Stop the Application Server, if it is running.
3. Select the tab **JVM Settings** on the right.
4. If the WAS and EIP are on the same workstation, enter the following Classpath information:

- For Windows:

```
<CMBROOT>\ikf\lib
<CMBROOT>\ikf\lib\ikf.jar
<CMBROOT>\lib\cmsdk81.jar
<CMBROOT>\lib\cmb81.jar
C:\Program Files\IBM\CMGMT
<CMBROOT>\lib\cmblog4j81.jar
<CMBROOT>\lib\log4j.jar
<DB2HOME>\java\db2java.zip
```

- For AIX:

```
/usr/lpp/cmb/ikf/lib
/usr/lpp/cmb/ikf/lib/ikf.jar
/usr/lpp/cmb/lib
/usr/lpp/cmb/lib/cmb81.jar
/usr/lpp/cmb/lib/cmsdk81.jar
/usr/lpp/cmb/cmgmt
/usr/lpp/cmb/lib/cmblog4j81.jar
/usr/lpp/cmb/lib/log4j.jar
<DB2HOME>/java/db2java.zip
```

- For Solaris:

```
/opt/IBMcmb/ikf/lib
/opt/IBMcmb/ikf/lib/ikf.jar
/opt/IBMcmb/lib
/opt/IBMcmb/lib/cmb81.jar
/opt/IBMcmb/lib/cmsdk81.jar
/opt/IBMcmb/cmgmt
/opt/IBMcmb/lib/cmblog4j81.jar
/opt/IBMcmb/lib/log4j.jar
<DB2HOME>/java/db2java.zip
```

If the WAS and EIP are on different workstations, the Classpath information is as follows:

- For Windows:

```
<CMBROOT>\ikf\lib\ikf.jar
<CMBROOT>\lib\cmbcm81.jar
<CMBROOT>\lib\cmb81.jar
```

- For AIX:

```
/usr/lpp/cmb/ikf/lib/ikf.jar
/usr/lpp/cmb/lib/cmb81.jar
/usr/lpp/cmb/lib/cmbcm81.jar
```

- For Solaris:

```
/opt/IBMcmb/ikf/lib/ikf.jar
/opt/IBMcmb/lib/cmb81.jar
/opt/IBMcmb/lib/cmb81cm.jar
```

5. Set "Maximum Heap Size" to 512.
6. Select **Apply** at the bottom of the page.
7. Start the WebSphere Control Program (WSCP) on AdminServer by:
 - Switching to the directory <WAS_Home>\bin in a command shell
 - Entering:
 - For Windows: wscp
 - For AIX: ./wscp.sh
 - For Solaris: ./wscp.sh

The command prompt changes to wscp>.

8. In the WSCP, enter the following:
 - wscp> set mod [list IST.war
/Node:<Node>/ApplicationServer:<AppServer>/]
 - wscp> set mods [list \$mod]
 - wscp> set host [list IST.war <VirtualHost>]
 - wscp> set hosts [list \$hosts]
 - For Windows: (on one line) Note: all '\ ' must be replaced by '/' in the path)
wscp> Module install /Node:<Node>/ <CMBROOT>/Ikf/IST/IST.war
-appname IST
-contextroot <WebPath> -moduleappservers \$mods
-modvirtualhosts \$hosts
 - For AIX (on one line):
wscp> Module install /Node:<Node>/ /usr/lpp/cmb/ikf/IST/IST.war
-appname IST
-contextroot <WebPath> -moduleappservers \$mods
-modvirtualhosts \$hosts
 - For Solaris (on one line):
wscp> Module install /Node:<node>/ /opt/IBMcmb/ikf/IST/IST.war
-appname IST
-contextroot <WebPath> -moduleappservers \$mods
-modvirtualhosts \$hosts
9. Exit the WSCP by entering `exit`
10. After deployment,
 - Open a command shell
 - Switch to the IST source directory at:
 - For Windows: <CMBROOT>\ikf\IST\bin
 - For AIX: /usr/lpp/cmb/ikf/IST/bin
 - For Solaris: /opt/IBMcmb/ikf/IST/bin

- At the command prompt, enter:
 - For Windows: ISTconfig and press **Enter**.
 - For AIX: ./ISTconfig.sh and press **Enter**.
 - For Solaris: ./ISTconfig and press **Enter**.
11. IST uses an EIP database named icmnlbdb
- If your database name is different:
- Switch to the directory where the IST is deployed, for example, for Windows <WAS_HOME>\installedApps, for AIX /usr/WebSphere/AppServer/installedApps and for Solaris /opt/WebSphere/AppServer/installedApps
 - Switch to the directory IST.ear and open the file IST.war/WEB-INF/web.xml
 - Search for icmnlbdb and rename to your EIP database.
 - Save the file.
12. Restart the Application Server.
13. The URL to access the Information Structuring Tool is http://host_alias/WebPath/login.html where:
- host_alias is one of the aliases specified for VirtualHost. To find this value:
 - Open the WAS Administrator’s Console
 - From the console menu, select **Virtual Hosts**→<VirtualHost>→**Aliases**
 - Each entry in the list (Host Name and Port) is a valid host alias, for example, prefix:9080
 - <WebPath> you specified during installation, for example, /webApps/IST

For information about the WSCP, see Chapter 6.6.0.2 (Command Line Administration) in the WAS AE InfoCenter. For information about installing the war file, see Chapter 6.6.0.2.2.4.8 (Creating an enterprise application).

Configuring the Web Application Server for the JSP sample

Before you can install the JSPs on the Websphere Application Server (WAS) Advanced Edition (AE) or Advanced Edition Single Server (WAS AEs), you need the following information:

- <Node> is the name of the workstation where the JSPs are to be installed.
- <AppServer> is the Application Server on <Node> where the JSPs are to be installed, for example, Default_Server.
- For WAS AE: <AdminServer> is the name of the machine the Administrative Server for Node is running on.
- <VirtualHost> is the name of the virtual host the JSPs are to run on, for example, default_host

- <WebPath> is the path portion of the URL used to access the JSPs. For example, if the JSPs are installed on the server prefix and <WebPath> is /miningSamples, the URL to access the JSPs is http://prefix:9080/miningSamples/logon.html
- <WAS_HOME> is the directory where the WAS is installed on <Node>, for example, d:\WebSphere\AppServer on Windows, /usr/WebSphere/AppServer on AIX and on Solaris, /opt/WebSphere/AppServer.
- For Windows:
 - <CMBROOT> is the value of the corresponding environment variable, for example, d:\cmbroot
 - <DB2HOME> is the value of the corresponding environment variable, for example, d:\sql1ib
- For AIX:
 - <DB2HOME> is the directory where DB2 is installed, for example, /usr/lpp/db2_07_01
- For Solaris:
 - <DB2HOME> is the directory where DB2 is installed, for example, /opt/IBMdb2/V7.1

We recommend that you deploy the JSPs on the same application server you deployed the Information Structuring Tool on. If you do, then you can continue deploying the JSPs at step 6 for WAS AEs or WAS AE. If the JSPs are not deployed on the same application server, refer to the “Installation scenarios” on page 130 before continuing with the following sections.

WAS AEs

After installing the WAS AEs and EIP, open the WAS Administrator’s Console and carry out the following:

1. From the console menu, select **Nodes** → **<Node>** → **Application Server** → **<AppServer>** → **Process Definitions** → **JVM Settings**
2. If the WAS and EIP are on the same workstation, enter the following Classpath information:
 - For Windows:
 - <CMBROOT>\ikf\lib
 - <CMBROOT>\ikf\lib\ikf.jar
 - <CMBROOT>\lib\cmb81.jar
 - <CMBROOT>\lib\cmbsdk81.jar
 - C:\Program Files\IBM\CMGMT
 - <CMBROOT>\lib\cmblog4j81.jar
 - <CMBROOT>\lib\log4j.jar
 - <DB2HOME>\java\db2java.zip
 - For AIX:


```

/usr/lpp/cmb/ikf/lib
/usr/lpp/cmb/ikf/lib/ikf.jar
/usr/lpp/cmb/lib
/usr/lpp/cmb/lib/cmb81.jar
/usr/lpp/cmb/lib/cmsdk81.jar
/usr/lpp/cmb/cmgmt
/usr/lpp/cmb/lib/cmblog4j81.jar
/usr/lpp/cmb/lib/log4j.jar
<DB2HOME>/java/db2java.zip

```

- For Solaris:

```

/opt/IBMcmb/ikf/lib
/opt/IBMcmb/ikf/lib/ikf.jar
/opt/IBMcmb/lib
/opt/IBMcmb/lib/cmb81.jar
/opt/IBMcmb/lib/cmsdk81.jar
/opt/IBMcmb/cmgmt
/opt/IBMcmb/lib/cmblog4j81.jar
/opt/IBMcmb/lib/log4j.jar
<DB2HOME>/java/db2java.zip

```

If the WAS and EIP are on different workstations, the Classpath information is as follows:

- For Windows:

```

<CMBROOT>\ikf\lib\ikf.jar
<CMBROOT>\lib\cmbcm81.jar
<CMBROOT>\lib\cmb81.jar

```

- For AIX:

```

/usr/lpp/cmb/ikf/lib/ikf.jar
/usr/lpp/cmb/lib/cmbcm81.jar
/usr/lpp/cmb/lib/cmb81.jar

```

- For Solaris:

```

/opt/IBMcmb/ikf/lib/ikf.jar
/opt/IBMcmb/lib/cmb81cm.jar
/opt/IBMcmb/lib/cmb81.jar

```

3. Select **OK** at the bottom of the page.
4. Save your configuration settings by clicking **Save** on the top bar of the WAS administrative console.
5. Click **Exit** on the top bar of the console to exit.
6. Shut down the WAS by:
 - Switching to the directory <WAS_Home>\bin in a command shell
 - Entering:
 - For Windows: stopserver
 - For AIX: ./stopServer.sh
 - For Solaris: ./stopServer.sh
7. In the command shell, enter:

- For Windows: `seappinstall -install <CMBROOT>\samples\jsp\infomining\jsp.war`
- For AIX: `./SEAppInstall.sh -install /usr/lpp/cmb/samples/jsp/infomining/jsp.war`
- For Solaris: `./SEAppInstall.sh -install /opt/IBMcmb/samples/jsp/infomining/jsp.war`

You are prompted as follows:

- Please specify an application display name: Enter `InfoMiningSamples`
 - Please specify a context root: Enter your `<WebPath>`
 - Do you wish to precompile all JSPs in this application: Enter `n`
 - Do you wish to precompile individual Web Applications: Enter `n`
 - Please specify a virtual host for the following Web applications, IBM information mining Samples JSPs: Enter your `<VirtualHost>`
8. Restart the WAS in the command shell by entering:
 - For Windows: `startserver`
 - For AIX: `./startServer.sh`
 - For Solaris: `./startServer.sh`
 9. The URL to access the JSPs is `http://host_alias/WebPath/logon.html` where:
 - `host_alias` is one of the aliases specified for `VirtualHost`. To find this value:
 - Open a WAS Administrator's Console
 - From the console menu, select **Virtual Hosts** → **<VirtualHost>** → **Aliases**
 - Each entry in the list (Host Name and Port) is a valid host alias, for example, `prefix:9080`
 - `<WebPath>` you specified during installation, for example, `/webApps/JSPs`

WAS AE

After installing the WAS AE and EIP, open the WAS Administrator's Console and carry out the following:

1. On the console menu, select **Nodes** → **<Node>** → **Application Server** → **<AppServer>**
2. Stop the Application Server, if it is running.
3. Select the tab **JVM Settings** on the right.
4. If the WAS and EIP are on the same workstation, enter the following Classpath information:
 - For Windows:

```

<CMBROOT>\ikf\lib
<CMBROOT>\ikf\lib\ikf.jar
<CMBROOT>\lib\cmb81.jar
<CMBROOT>\lib\cmsdk81.jar
  C:\Program Files\IBM\CMGMT
<CMBROOT>\lib\cmblog4j81.jar
<CMBROOT>\lib\log4j.jar
<DB2HOME>\java\db2java.zip

```

- For AIX:

```

/usr/lpp/cmb/ikf/lib
/usr/lpp/cmb/ikf/lib/ikf.jar
/usr/lpp/cmb/lib
/usr/lpp/cmb/lib/cmsdk81.jar
/usr/lpp/cmb/cmgmt
/usr/lpp/cmb/lib/cmblog4j81.jar
/usr/lpp/cmb/lib/log4j.jar
<DB2HOME>/java/db2java.zip
/usr/lpp/cmb/lib/cmb81.jar

```

- For Solaris:

```

/opt/IBMcmb/ikf/lib
/opt/IBMcmb/ikf/lib/ikf.jar
/opt/IBMcmb/lib
/opt/IBMcmb/lib/cmb81.jar
/opt/IBMcmb/lib/cmsdk81.jar
/opt/IBMcmb/cmgmt
/opt/IBMcmb/lib/cmblog4j81.jar
/opt/IBMcmb/lib/log4j.jar
<DB2HOME>/java/db2java.zip

```

If the WAS and EIP are on different workstations, the Classpath information is as follows:

- For Windows:

```

<CMBROOT>\ikf\lib\ikf.jar
<CMBROOT>\lib\cmbcm81.jar
<CMBROOT>\lib\cmb81.jar

```

- For AIX:

```

/usr/lpp/cmb/ikf/lib/ikf.jar
/usr/lpp/cmb/lib/cmbcm81.jar
/usr/lpp/cmb/lib/cmb81.jar

```

- For Solaris:

```

/opt/IBMcmb/ikf/lib/ikf.jar
/opt/IBMcmb/lib/cmb81cm.jar
/opt/IBMcmb/lib/cmb81.jar

```

5. Select **Apply** at the bottom of the page.
6. Start the WebSphere Control Program (WSCP) on <AdminServer> by:
 - Switching to the directory <WAS_Home>\bin in a command shell
 - Entering:
 - For Windows: wscp

- For AIX: ./wscp.sh
- For Solaris: ./wscp.sh

The command prompt changes to wscp>

7. In the WSCP, enter the following:

- wscp> set mod [list jsp.war
/Node:<Node>/ApplicationServer:<AppServer>/]
- wscp> set mods [list \$mod]
- wscp> set host [list jsp.war <VirtualHost>]
- wscp> set hosts [list \$hosts]
- For Windows: (on one line) Note: all '\ ' must be replaced by '/' in the path)

```
wscp> Module install /Node:<Node>/
<CMBROOT>/samples/jsp/infomining/jsp.war
-appname InfoMiningSamples -contextroot <WebPath>
-moduleappservers $mods
-modvirtualhosts $hosts
```

- For AIX (on one line):

```
wscp> Module install /Node:<Node>/
/usr/lpp/cmb/samples/jsp/infomining/jsp.war
-appname InfoMiningSamples -contextroot
<WebPath> -moduleappservers $mods
-modvirtualhosts $hosts
```

- For Solaris (on one line):

```
wscp> Module install /Node:<node>/
/opt/IBMcmb/samples/jsp/infomining/jsp.war
-appname InfoMiningSamples -contextroot <WebPath>
-moduleappservers $mods
-modvirtualhosts $hosts
```

8. Exit the WSCP by entering exit

9. Restart the Application Server in the console.

10. The URL to access the JSPs is http://host_alias/WebPath/logon.html where:

- host_alias is one of the aliases specified for VirtualHost. To find this value:
 - Open the WAS Administrator's console
 - From the console menu, select **Virtual Hosts** → **<VirtualHost>** → **Aliases**
 - Each entry in the list (Host Name and Port) is a valid host alias, for example, prefix:9080
- <WebPath> you specified during installation, for example, /miningSamples

For information about the WSCP, see Chapter 6.6.0.2 (Command Line Administration) in the WAS AE InfoCenter. For information about installing the war file, see Chapter 6.6.0.2.2.4.8 (Creating an enterprise application).

Migrating EIP 7.1 databases

This section explains how to migrate EIP 7.1 databases to EIP Version 8.1

The EIP Version 8.1 migration utility copies most of the EIP 7.1 data to an EIP 8.1 database. The EIP 7.1 database is preserved. Optionally, back up the EIP 7.1 databases before you migrate.

You can migrate EIP 7.1 databases two ways:

- Migrate multiple EIP 7.1 databases into one EIP 8.1 database, or
- Migrate each EIP 7.1 database into a corresponding new EIP 8.1 database

The migration utility copies the following data:

- Server definitions
- User management objects, authorization objects and user mappings
- Federated entities with federated attributes, schema mappings
- Search templates with search criteria
- User defined server type
- Mime Type, Mime to Application
- Workflow related data. **Note:** EIP Version 7.1 worklist information is not migrated. You must recreate the worklist information in the corresponding EIP 8.1 database.

Before you migrate

Before you use the migration utility, you must create the new database(s). See the EIP planning and installation documentation that explains library server installation.

Prerequisites

To successfully run the migration utility, install and verify the following EIP 8.1 components:

- EIP Version 8 Federated Connector (local on the system where you will perform the migration)
- EIP Version 8 administration database (federated database) (local or remote to the system where migration to be run)
- If you plan to migrate to or from a remote database, you must catalog the database(s) before you use the migration utility. Use DB2 Client Configuration Assistant, the DB2 command line processor, or the EIP Version 8.1 Server Configuration Utility to catalog the remote database(s).

Using the migration utility

1. Create a temporary directory on the computer where you will use the migration utility.
2. Insert the EIP Version 8 installation CD and navigate to the root directory.
3. Copy migration81.jar, Cmbmig7_2_8.bat for Windows or Cmbmig7_2_8.sh for AIX to the temporary directory created in step 1.
4. Start the migration utility from a command prompt. For example on Windows, C:\temp\run cmbmig_7_2_8.bat. On AIX, the command would be # cd /tmp/run cmbmig_7_8.sh. **Tip:** the migration utility software automatically configures the storage space necessary for the new database(s).
5. After you start the migration utility, answer the following prompts:
 - a. Name of the original database. *Example:* CMBDB1
 - b. DB2 connect ID for the old database. *Example:* cmbadmin
 - c. DB2 connection password. *Example:* password
 - d. Schema name for the old database. *Example:* cmbadmin
 - e. Name of the new database. *Example:* ICMNLSDB
 - f. Library server user ID. *Example:* ICMADMIN
 - g. Library server password. *Example:* password
 - h. Schema name for the library server database. *Example:* ICMADMIN

If you migrate multiple EIP 7.1 databases into one EIP 8.1 database, you must use the migration utility once for each old database and supply the same answers for steps 5-8. To migrate each EIP 7.1 database into a corresponding EIP 8.1 database, you must run the migration utility for each database with unique answers for steps 5e through 5h.

Completing and verifying the migration

The utility displays a message when database migration completes. If errors occurred, exception messages are written to the error log file dklog.log.

To verify database migration:

1. Log on to the EIP Version 8.1 system administration client.
2. Click the drop-down list next to the Server field on the client login window.
3. Select a migrated database.
4. Type the user ID and password for the migrated database.
5. Click OK.
6. The client opens, and the name of migrated database is listed in the client main window.

Chapter 9. Configuring an RMI server

The procedures in this section explain how to perform these tasks on an RMI server:

- Configure the server
- Connect a client
- Configure information mining
- Configure workflow

Configuring an RMI server

To configure the RMI server:

1. Open a command prompt and change to the directory to the directory where the `cmbregist81.bat` (or `cmbregist81.sh`) file *and* the policy file are located.

On Windows: Open `cmbregist81.bat` in a text editor.

On AIX: Open `/usr/lpp/cmb/bin/cmbregist81.sh` in a text editor.

On Solaris: Open `/opt/IBMcmb/cmbregist81.sh` in a text editor.

2. You can change the port number in the following line, or accept the default port number, 1919:

```
set remotePort=1919
```

3. Change the following line to match your configuration:

```
%JAVAHOME%\jre\bin\java -cp %CLASSPATH% -ms16M  
Djava.security.policy=.\policyDjava.rmi.server.codebase=http://com.  
ibm.mm.sdk.remote. DKRemoteMainImp%remotePort% 0 13 TS QBIC DL JDBC  
Fed V4 IP DD OD DES DB2 DJ
```

0 Change 0 to a number that represents the maximum number of connections that the RMI server can concurrently process. The default is 0, which indicates that there is no maximum number of connections for this RMI server. This is the suggested setting for a single or master RMI server.

13 Change this number to match the number of server types that follow.

TS QBIC® DL JDBC Fed V4 IP DD OD DES DB2 DJ IC

Server types supported by the RMI server. You can type the RMI server variables in any order, but you must type them exactly as they are listed in Table 17.

Table 17. RMI server variables

RMI server variables	When to set
DES	You are accessing Domino Extended Search servers.
DL	You are accessing Content Manager servers.
Fed	Your EIP database is installed on the RMI server.
IP	You are accessing Content Manager ImagePlus for OS/390 servers.
JDBC	Your EIP database is installed on the RMI server.
DD	You are accessing Domino.Doc servers.
OD	You are accessing Content Manager OnDemand servers.
QBIC	You are accessing Content Manager servers that are configured with an image search server.
TS	You are accessing Content Manager servers that are configured with a text search server.
V4	You are accessing Content Manager for AS/400 servers.
DB2	You are accessing DB2 Universal Database servers.
DJ	You are accessing DB2 DataJoiner servers.
IC	You are accessing DB2 UDB Data Warehouse Center Information Catalog Manager using the Information Catalog connector.

4. After you change the variables in the file, ensure that the number that you typed before the list of RMI server variables matches the number of server variables listed.
5. Save `cmbregist81.bat`.
6. Start the RMI server by running the `cmbregist81` command.

On Windows:

```
cmbregist81 hostname
```

where *hostname* is the name of the RMI server on which you are running the command.

On AIX:

```
./cmbregist81.sh hostname
```

where *hostname* is the name of the RMI server on which you are running the command. Make sure you use the period (.) and a blank space before the command name.

7. The RMI server is now ready to use.

Configuring multiple RMI servers

You can configure EIP with multiple RMI servers to distribute client requests. A group of RMI servers is called a *server pool*.

To set up an RMI server pool, you must designate one server as the master RMI server. The master server is registered with the RMI registry so that clients and other RMI servers in the server pool can connect to it. When a server pool member is registered with the master server, the master server adds the server pool member to a list.

Every client sends requests to the master server. The master server evenly delegates client requests to a member of the server pool. The server pool member fulfills the client request. The master server services a connection only when all of the server pool members have reached their maximum capacity.

For example, you start four RMI servers; one is a master server, and three are server pool members. The master server receives three client requests. The master server sends the first request to the first server, the second request to the second server, and the third request to the third server. The master server sends the fourth request to the first server, and the fifth request to the second server. If there is no limit on the number of connections, the cycle continues for as long as there are requests for servers.

Each member of the server pool and the master server must have at least one connector installed. Installing a connector from the EIP Version 8.1 CD installs the RMI classes for that connection.

The difference between a master RMI server and a server pool member is how their `cmbregist81.bat` files are set.

To configure additional RMI servers to be part of a server pool:

1. Ensure that you have installed the appropriate content server connectors on the RMI server.
2. Open a command prompt and set the directory to the directory where the `cmbregist81.bat` *and* the policy file are located.
3. On Windows, open `cmbregist81.bat` in a text editor. On AIX and Solaris, open `cmbregist81.sh` in a text editor
4. Locate the following lines at the top of the file:

```
REM Note: To point to a master RMI server do the following
instead
REM of the statement below
REM java -cp %classpath% -ms16M
```

```
Djava.rmi.server.hostname=<hostname>Djava.security.policy=.\policy
-Djava.rmi.server.codebase=http://com.ibm.mm.sdk.remote.
DKRemoteMainImp 1919 5 MasterRMIServer<MasterRMIServer host name>
1922 5 DL TS QBIC JDBC Fed
```

5. Copy and paste the following line after the set remotePort=1919 statement:

```
java -cp %classpath% -ms16MD-
java.rmi.server.hostname=<hostname>
-Djava.security.policy=.\policy -Djava.rmi.server.codebase=http://
com.ibm.mm.sdk.remote.DKRemoteMainImp 1919 5
MasterRMIServer <MasterRMIServer hostname> 1922 5
DL TS QBIC JDBC Fed
```

6. In the set remotePort statement:

```
set remotePort=1919
```

Change 1919 to an available port number.

7. Delete the following line:

```
%JAVAHOME%\jre\bin\java -cp %CLASSPATH% -ms16M
-Djava.security.policy=.\policy
-Djava.rmi.server.codebase=http://
com.ibm.mm.sdk.remote.DKRemoteMainImp %remotePort%
0 13 TS QBIC DL JDBC Fed V4 IP DD OD DES DB2 DJ IC ICM
```

8. In the line that you copied and pasted from the top of the file, change the variables to match your configuration:

```
java -cp %classpath% -ms16M -
Djava.rmi.server.hostname=<hostname>
-Djava.security.policy=.\policy -Djava.rmi.server.codebase=http://
com.ibm.mm.sdk.remote.DKRemoteMainImp 1919 5
MasterRMIServer <MasterRMIServer hostname>
1922 5 DL TS QBIC JDBC Fed
```

1919 Change 1919 to the port number that the RMI server pool member is using.

- 5 Change 5 to a number that represents the maximum number of connections that the RMI server can concurrently process. Note that this number automatically increases if the maximum number is reached. Type 0 to indicate there is no maximum number of connections for this RMI server pool member.

hostname

Change hostname to the host name of the RMI server pool member.

MasterRMIServer hostname

Change MasterRMIServer hostname to the host name of the RMI master server.

1922 Change 1922 to the port number that you set for the RMI master server.

- 5 Change this number to match the number of server types that follow.

DL TS QBIC JDBC Fed

Are the server types supported by the RMI pool member. You can type the RMI server variables in any order, but you must type them exactly as they are listed in Table 17 on page 146. The table lists the RMI variables and when to set them.

9. Save `cmbregist81.bat`.
10. Ensure that the master RMI server is running.
Requirement: The server pool members attempt to connect to the master RMI server when they start, so you must start the master RMI server before starting the server pool members.
11. Start the RMI pool member by running the `cmbregist81` command.

On Windows:

```
cmbregist81 hostname
```

where *hostname* is the host name of the RMI server where you are running the command.

On AIX:

```
. /cmbregist81.sh hostname
```

where *hostname* is the host name of the RMI server where you are running the command. Make sure you use the period (.) and a blank space before the command name.

Recommendation: If you configure multiple RMI servers, you should install the federated connector on only one RMI server in the server pool.

Tip: If you have a workstation with the resource, you can run multiple RMI servers on the same workstation, but you must copy the `cmbregist81.bat` file and give the copy a different name for one of the RMI servers. For example, run one RMI server by running `cmbregist81.bat` and the second by running `cmbregist812.bat`.

Configuring information mining

After you install information mining, you can configure the server on which information mining is installed as an RMI server, so that other client workstations can access the information mining services.

Configuring information mining on a local RMI server

To configure a local server as an RMI server:

1. Open a command prompt and change to the directory where the `cmbsvregist81.bat` (or `cmbsvregist81.sh`) and the policy file are located.
2. **On Windows:** Open `cmbsvregist81.bat` or `cmbsvregist81.sh` in a text editor.
3. You can change the port number in the following line, or accept the default port number, 1920:

```
set remotePort=1920
```

4. Change the following line to match your configuration:

```
%JAVAHOME%\jre\bin\java -cp %classpath% -ms16M
Djava.security.policy=.\policy-
Djava.rmi.server.codebase=
http://com.ibm.mm.sdk.remote.DKRemoteServiceMainImp%
remotePort % 0 1 IKF
```

0 Change 0 to a number that represents the maximum number of connections that the RMI server can concurrently process. The default is 0, which indicates that there is no maximum number of connections for this RMI server. This is the suggested setting.

1 The number of server types that are supported by the RMI server. If you use an RMI server as your information mining server, only one server type is supported: IKF.

IKF Is the server type supported by the RMI server.

5. Save `cmbsvregist81.bat` or `cmbsvregist81.sh`.
6. To start the RMI server, open a command prompt and change to the `cmroot` directory. Type `cmbsvregist81.bat` or `cmbsvregist81.sh`.

Configuring information mining on a remote RMI server

If the EIP information mining service is located on another workstation with a configured RMI server, you must change the `cmbsvclient.ini` file on the information mining client to connect with the RMI server:

1. Open `cmbsvclient.ini` in a text editor.
2. Delete the number sign (#) next to the key words `RemoteHost` and `RemotePort`. The number sign indicates a comment in the file.
3. Type your RMI server host name and port number as follows:

```
RemoteHost=hostname
RemotePort=1920
```

Where *hostname* is the RMI server host name and *1920* is the RMI server port number.

4. Save `cmbsvclient.ini`.

Configuring the client to locate the RMI server

The `cmbclient.ini` is a file that is always installed with the administration client and every client that connects with the RMI server. If your configuration includes an RMI server, you can manually set `cmbclient.ini` on the workstation where the administration client is installed. However, at installation time, you are still prompted with the Specify RMI host name and port number window to enter the RMI host name and port number for your RMI server.

To manually set the `cmbclient.ini` file:

1. Open `cmbclient.ini` in a text editor.
2. Delete the number sign (#) next to the key words `RemoteHost` and `RemotePort`. The number sign indicates a comment in the file.
3. Type your RMI server host name and port number as follows:

```
RemoteHost=ccrmi
RemotePort=1919
```

where `ccrmi` is the RMI server host name and `1919` is the RMI server port number.

4. Save `cmbclient.ini`.

Configuring workflow with an RMI server

After you install your workflow server, you can configure the workflow server as an RMI server or to connect the workflow server to the RMI server for remote administration support.

To configure the workflow server as an RMI server:

1. From a command prompt, change to the directory where the `cmbregist81.bat` and the policy file are located.
2. **On Windows:** Open `cmbsvregist81.bat` in a text editor.
3. You can change the port number in the following line, or accept the default port number, `1920`:

```
set remotePort=1920
```

4. Change the following line to match your configuration:

```
%JAVAHOME%\jre\bin\java -cp %classpath%-ms16D-  
java.security.policy=.\policy-  
Djava.rmi.server.codebase=http://com.ibm.mm.sdk.remote.  
DKRemoteServiceMainImp %remotePort% 0 1 MQWF
```

0 Change 0 to a number that represents the maximum number of connections that the RMI server can concurrently process. The default is 0, which indicates that there is no maximum number of connections for this RMI server. This is the suggested setting.

- 1 Is the number of server types that are supported by the RMI server. If you use an RMI server as your workflow server, only one server type is supported: MQWF.

MQWF

Is the server type supported by the RMI server.

5. Save `cmbsvregist81.bat`.
6. Start the RMI server by running the `cmbsvregist81.bat` command.

Locating a remote administration database

If the EIP administration database is located on another server, then you must set the `cmbsvclient.ini` file on the workflow server to connect with the remote administration database:

1. Open `cmbsvclient.ini` in a text editor.
2. Delete the number sign (#) next to the key words `RemoteHost` and `RemotePort`. The number sign indicates a comment in the file.
3. Type your RMI server host name and port number as follows:

```
RemoteHost=yourserver  
RemotePort=yourportnumber
```

where *yourserver* is the RMI server host name and *yourportnumber* is the RMI server port number.

4. Save `cmbsvclient.ini`.

Chapter 10. Generating configuration files

These sections describe the `cmbcmenv.properties` file, a list of the INI files, LDAP data source information, and the Java utilities that can conveniently create and update them.

For Enterprise Information Portal: after installing the system administration client or connectors, you can run `cmbenv81.bat` (Windows) or `cmbenv81.sh` (AIX and Solaris) to automatically set the classpath for the Java utilities.

For Content Manager Version 8.1: after installing the system administration client, you can run `cmbicmenv81.bat` (Windows) to automatically set the classpath for the Java utilities.

This section covers the following topics:

- “`cmbcmenv.properties`” on page 154
- “INI configuration files” on page 157
- “Lightweight Directory Access Protocol (LDAP) data sources” on page 166

cmbcmenv.properties

This properties file tells the connector where the INI files are located. It can also specify an LDAP server that can contain data source information or be used for user authentication.

Attention: Parenthesis contain comments and information, not utility parameters.

JAR files need to run utility: cmbutil81.jar

Usage

```
java com.ibm.mm.sdk.util.cmbcmenv
```

Flags

Input parameter is optional if it has a default value.

-h (help)

-a <add> (action) -c <fileSystem> (category)

-p <directory path location for configuration files>

-d <directory path location cmbcmenv.properties> (default current directory)

-seeerrr <TRUE | FALSE> (display error messages for add, update and delete operations (default TRUE))

-a <update> (action) -c <fileSystem> (category)

-p <directory path location for configuration files>

-d <directory path location cmbcmenv.properties> (default current directory)

-seeerrr <TRUE | FALSE> (display error messages for add, update and delete operations (default TRUE))

-a (action) -c <fileSystem> (category)

-d <directory path location cmbcmenv.properties> (default current directory)

-seeerrr <TRUE | FALSE> (display error messages for add, update and delete operations (default TRUE))

-a <add> (action) -c <URL> (category)

-url <URL location for configuration files>

-d <directory path location cmbcmenv.properties> (default current directory)

-seeerrr <TRUE | FALSE> (display error messages for add, update and delete operations (default TRUE))

-a <update> (action) -c <URL> (category)

-url <URL location for configuration files>

-d <directory path location cmbcmenv.properties> (default current directory)

-seeerrr <TRUE | FALSE> (display error messages for add, update and delete operations (default TRUE))

-a (action) -c <URL> (category)

-d <directory path location cmbcmenv.properties> (default current directory)

-seeerrr <TRUE | FALSE> (display error messages for add, update and delete operations (default TRUE))

-a <add> (action) -c <LDAP> (category)

-ldapenabled <TRUE | FALSE> (LDAP enabled (default TRUE))

-ldapdatasourcesenabled <TRUE | FALSE> (LDAP datasources enabled (default FALSE))

-ldapuserauthenenabled <TRUE | FALSE> (LDAP user authentication enabled (default FALSE))

-ldapfactory <LDAP Java JNDI context factory> (default com.sun.jndi.ldap.LdapCtxFactory)

-ldapstype <ACTIVE_DIRECTORY | STANDARD_LDAP> (LDAP server type (default STANDARD_LDAP))

-ldapurl <LDAP service provider url>

-ldapref <follow | ignore> (LDAP referral (default ignore))

-ldapauth <simple> (LDAP referral (default simple))

-ldapuid <LDAP principal>

-ldapcred <LDAP credentials>

-ldaprootdn <LDAP root domain name>

-ldapsrchscope <SUBTREE_SCOPE | ONELEVEL_SCOPE> (LDAP search scope (default SUBTREE_SCOPE))

-ldapprotocol <none> (LDAP protocol (default none))

-ldapauthattr <LDAP authentication attribute> (default no value)

-ldapport <LDAP port> (default no value)


```

-ldapdescattr <LDAP user description attribute> (default DN)
-ldapsslkeyring <LDAP IBM SSL keyring name> (default no value)
-ldapsslpwd <LDAP IBM SSL password> (default no value)
-ldapsslcphrs <LDAP IBM SSL ciphers> (default SSL_RSA_EXPORT_WITH_RC4_40_MD5
SSL_RSA_EXPORT_WITH_DES40_CBC_SHA SSL_RSA_EXPORT_WITH_RC2_CBC_40_MD5)
-d <directory path location cmcmenv.properties> (default current directory)
-seeerr <TRUE | FALSE> (display error messages for add, update and
delete operations (default TRUE))

-a <update> (action) -c <LDAP> (category)
-ldapenabled <TRUE | FALSE> (LDAP enabled (default TRUE))
-ldapdatasourcesenabled <TRUE | FALSE> (LDAP datasources enabled (default FALSE))
-ldapuserauthenabled <TRUE | FALSE> (LDAP user authentication enabled (default FALSE))
-ldapfactory <LDAP Java JNDI context factory> (default com.sun.jndi.ldap.LdapCtxFactory)
-ldapstype <ACTIVE_DIRECTORY | STANDARD_LDAP> (LDAP server type (default STANDARD_LDAP))
-ldapur1 < LDAP service provider url>
-ldapref <follow | ignore> (LDAP referral (default ignore))
-ldapauth <simple> (LDAP referral (default simple))
-ldapuid <LDAP principal>
-ldapcred <LDAP credentials>
-ldaprootdn <LDAP root domain name>
-ldapsrscope <SUBTREE_SCOPE | ONELEVEL_SCOPE> (LDAP search scope (default SUBTREE_SCOPE))
-ldapprotocol <none> (LDAP protocol (default none))
-ldapauthattr <LDAP authentication attribute> (default no value)
-ldapport <LDAP port> (default no value)
-ldapdescattr <LDAP user description attribute> (default DN)
-ldapsslkeyring <LDAP IBM SSL keyring name> (default no value)
-ldapsslpwd <LDAP IBM SSL password> (default no value)
-ldapsslcphrs <LDAP IBM SSL ciphers> (default SSL_RSA_EXPORT_WITH_RC4_40_MD5
SSL_RSA_EXPORT_WITH_DES40_CBC_SHA SSL_RSA_EXPORT_WITH_RC2_CBC_40_MD5)
-d <directory path location cmcmenv.properties> (default current directory)
-seeerr <TRUE | FALSE> (display error messages for add, update and
delete operations (default TRUE))

-a <del> (action) -c <LDAP> (category)
-d <directory path location cmcmenv.properties> (default current directory)
-seeerr <TRUE | FALSE> (display error messages for add, update and
delete operations (default TRUE))

```

Examples

- This example adds the CMCFGDIR keyword and value to the cmcmenv.properties file which points to a directory where the INI files are located.

```
java com.ibm.mm.sdk.util.cmcmenv -a add -c fileSystem -p "c:\Program Files\IBM\CMGMT"
```
- This example adds the CMCOMMON_URL keyword and value to the cmcmenv.properties file which point to a web server directory where the INI files are located.

```
java com.ibm.mm.sdk.util.cmcmenv -a add -c URL -url
http://www.mycorp.com/cmgmt
```
- This example adds the CMCOMMON_LDAP keyword and LDAP values to the cmcmenv.properties file which point to an LDAP server where the Java Federated and/or ICM datastore data sources are to be stored. After you do this, you will need to run some other LDAP Java utilities described below to put entries for the Federated and/or ICM data sources into this LDAP server. The data sources for Federated and/or ICM datastores is only available for the Java version of these connectors.

IBM Secure Way:

```
java com.ibm.mm.sdk.util.cmcmenv -a add -c LDAP
```

```
-ldapdatasourcesenabled TRUE -ldapurl ldap://www.mycorp.com  
-ldapuid cn=root -ldapcred mypwd -ldaprootdn o=IBM,c=US
```

MS Active Directory:

```
java com.ibm.mm.sdk.util.cmcmenv -a add -c LDAP  
-ldapdatasourcesenabled TRUE -ldapstype ACTIVE_DIRECTORY  
-ldapurl ldap://www.mycorp2.com -ldapuid myuid -ldapcred  
mypwd -ldaprootdn DC=mycorp,DC=org -ldapport 389
```

INI configuration files

These sections describe the various INI files, their purpose, cmvcmenv.properties file keywords, and the utility JAR files required to generate them. The sections also describe their Java utility usage, flags, and examples. The files listed here will be created if they do not exist. The cmbutil81.jar should always be included with the cmbutilicm81.jar, cmbutilfed81.jar and cmbutiljdb81.jar.

For Enterprise Information Portal: after installing the system administration client or connectors, you can run cmbenv81.bat (Windows) or cmbenv81.sh (AIX and Solaris) to automatically set the classpath for the Java utilities.

For Content Manager Version 8.1: after installing the system administration client, you can run cmbicmenv81.bat (Windows) to automatically set the classpath for the Java utilities.

Attention: Parenthesis contain comments and information, not utility parameters. The phrase "n/a" means that the INI file has no utility.

Table 18. C++ INI files

INI files	Connector	cmvcmenv.properties keywords	Required utility JAR files	Page number
cmbcc2mime.ini	common	CMCOMMON	n/a	n/a
cmbpool.ini	common	CMCOMMON	n/a	n/a
cmbicmenv.ini	ICM	CMCOMMON, CMCOMMON_URL	cmbutil81.jar, cmbutilicm81.jar	Page 159
cmbicmsrvs.ini	ICM	CMCOMMON, CMCOMMON_URL	cmbutil81.jar, cmbutilicm81.jar	Page 160
cmbfedenv.ini	Fed	CMCOMMON, CMCOMMON_URL	cmbutil81.jar, cmbutilfed81.jar	Page 161
cmbds.ini	Fed	CMCOMMON, CMCOMMON_URL	cmbutil81.jar, cmbutilfed81.jar	Page 162
cmbdsod.ini	OD	CMCOMMON	n/a	n/a
cmbdes.ini	DES	CMCOMMON	n/a	n/a

Table 19. Java INI files

INI files	Connector	cmvcmenv.properties keywords	Required utility JAR files	Page number
cmbcc2mime.ini	common	CMCOMMON, CMCOMMON_URL	n/a	n/a

Table 19. Java INI files (continued)

INI files	Connector	cmbcmenv.properties keywords	Required utility JAR files	Page number
cmbcs.ini	common	CMCOMMON, CMCOMMON_URL	cmbutil81.jar	Page 163
cmbclient.ini	common	CMCOMMON, CMCOMMON_URL	cmbutil81.jar	Page 164
cmbsvclient.ini	common	CMCOMMON, CMCOMMON_URL	n/a	n/a
cmbsvcs.ini	common	CMCOMMON, CMCOMMON_URL		
cmbpool.ini	common	CMCOMMON, CMCOMMON_URL		
cmbicmenv.ini	ICM	CMCOMMON, CMCOMMON_URL	cmbutil81.jar, cmbutilicm81.jar	Page 159
cmbicmsrvs.ini	ICM	CMCOMMON, CMCOMMON_URL	cmbutil81.jar, cmbutilicm81.jar	Page 160
cmbfedenv.ini	Fed	CMCOMMON, CMCOMMON_URL	cmbutil81.jar, cmbutilfed81.jar	Page 161
cmbds.ini	Fed	CMCOMMON, CMCOMMON_URL	cmbutil81.jar, cmbutilfed81.jar	Page 162
cmbjdbcsrvs.ini	JDBC	CMCOMMON, CMCOMMON_URL	cmbutil81.jar, cmbutiljdbc81.jar	Page 165
cmbdsod.ini	OD	CMCOMMON, CMCOMMON_URL		
cmbdes.ini	DES	CMCOMMON, CMCOMMON_URL		

cmbicmenv.ini (ICM connector)

This INI file has database connect information. Whenever you catalog a new database, you need to add it to this INI file.

JAR files need to run utility:

- cmbutil81.jar
- cmbutilicm81.jar

Usage

```
java com.ibm.mm.sdk.util.cmbenvicm
```

Flags

Input parameter is optional if it has a default value.

-h (help)

-a <add> (action)

```
-s <library server database name>
-u <database userid>
-p <database password>
-d <directory path location cmbicmenv.ini> (default current directory)
-seeerr <TRUE | FALSE> (display error messages for add, update and
delete operations (default TRUE))
```

-a <update> (action)

```
-s <library server database name>
-u <database userid>
-p <database password>
-d <directory path location cmbicmenv.ini> (default current directory)
-seeerr <TRUE | FALSE> (display error messages for add, update and
delete operations (default TRUE))
```

-a (action)

```
-s <library server database name>
-d <directory path location cmbicmenv.ini> (default current directory)
-seeerr <TRUE | FALSE> (display error messages for add, update and
delete operations (default TRUE))
```

Examples

- This example adds an entry for a library server.

```
java com.ibm.mm.sdk.util.cmbenvicm -a add -s icmnlbdb -u icmconct -p
mypwd
```

cmbicmsrvs.ini (ICM connector)

This INI file has datastore data source information. Whenever you catalog a new database, you need to add it to this INI file.

JAR files need to run utility:

- cmbutil81.jar
- cmbutilicm81.jar

Usage

```
java com.ibm.mm.sdk.util.cmbsrvsicm
```

Flags

Input parameter is optional if it has a default value.

-h (help)

-a <add> (action)

```
-s <library server database name>
-sm <database schema name>
-r <DB2> (database representation type (default DB2))
-ssso <TRUE | FALSE> (single signon supported (default FALSE))
-dbauth <CLIENT | SERVER> (single signon supported (default SERVER))
-d <directory path location cmbicmenv.ini> (default current directory)
-seeerr <TRUE | FALSE> (display error messages for add, update and
delete operations (default TRUE))
-rs <TRUE | FALSE> (remote server indicator (default FALSE))
-host <hostname> (default no value)
-port <port number> (default no value)
-rdb <remote database name> (default no value)
-node <node name> (default no value)
-os <WIN | MVS | AIX | SUN> (operating system type (default no value))
```

-a <update> (action)

```
-s <library server database name>
-sm <database schema name>
-r <DB2> (database representation type (default DB2))
-ssso <TRUE | FALSE> (single signon supported (default FALSE))
-dbauth <CLIENT | SERVER> (single signon supported (default SERVER))
-d <directory path location cmbicmenv.ini> (default current directory)
-seeerr <TRUE | FALSE> (display error messages for add, update and
delete operations (default TRUE))
-rs <TRUE | FALSE> (remote server indicator (default FALSE))
-host <hostname> (default no value)
-port <port number> (default no value)
-rdb <remote database name> (default no value)
-node <node name> (default no value)
-os <WIN | MVS | AIX | SUN> (operating system type (default no value))
```

-a (action)

```
-s <library server database name>
-d <directory path location cmbicmenv.ini> (default current directory)
-seeerr <TRUE | FALSE> (display error messages for add, update and
delete operations (default TRUE))
```

Examples

- This example adds an entry for a library server.

```
java com.ibm.mm.sdk.util.cmbsrvsicm -a add -s icmnlbdb -sm ICMADMIN
```

cmbfedenv.ini (Federated connector)

This INI file has database connect information. Whenever you catalog a new database you need to add it to this INI file.

JAR files need to run utility:

- cmbutil81.jar
- cmbutilfed81.jar

Usage

```
java com.ibm.mm.sdk.util.cmbenvfed
```

Flags

Input parameter is optional if it has a default value.

-h (help)

-a <add> (action)

-s <federated database name>
-u <database userid>
-p <database password>
-d <directory path location cmbfedenv.ini> (default current directory)
-seeerr <TRUE | FALSE> (display error messages for add, update and delete operations (default TRUE))

-a <update> (action)

-s <federated database name>
-u <database userid>
-p <database password>
-d <directory path location cmbfedenv.ini> (default current directory)
-seeerr <TRUE | FALSE> (display error messages for add, update and delete operations (default TRUE))

-a (action)

-s <federated database name>
-d <directory path location cmbfedenv.ini> (default current directory)
-seeerr <TRUE | FALSE> (display error messages for add, update and delete operations (default TRUE))

Examples

- This example adds an entry for a Federated database.

```
java com.ibm.mm.sdk.util.cmbenvfed -a add -s icmnlbdb -u icmconct -p  
mypwd
```

cmbds.ini (Federated connector)

This INI file has datastore data source information. Whenever you catalog a new database you need to add it to this INI file.

JAR files need to run utility:

- cmbutil81.jar
- cmbutilfed81.jar

Usage

```
java com.ibm.mm.sdk.util.cmbdsfed
```

Flags

Input parameter is optional if it has a default value.

-h (help)

-a <add> (action)

```
-s <federated database name>
-sm <database schema name>
-r <DB2> (database representation type (default DB2))
-ssso <TRUE | FALSE> (single signon supported (default FALSE))
-dbauth <CLIENT | SERVER> (single signon supported (default SERVER))
-d <directory path location cmbicmenv.ini> (default current directory)
-seeerr <TRUE | FALSE> (display error messages for add, update and
delete operations (default TRUE))
-rs <TRUE | FALSE> (remote server indicator (default FALSE))
-host <hostname> (default no value)
-port <port number> (default no value)
-rdb <remote database name> (default no value)
-node <node name> (default no value)
-os <WIN | MVS | AIX | SUN> (operating system type (default no value))
```

-a <update> (action)

```
-s <federated database name>
-sm <database schema name>
-r <DB2> (database representation type (default DB2))
-ssso <TRUE | FALSE> (single signon supported (default FALSE))
-dbauth <CLIENT | SERVER> (single signon supported (default SERVER))
-d <directory path location cmbicmenv.ini> (default current directory)
-seeerr <TRUE | FALSE> (display error messages for add, update and
delete operations (default TRUE))
-rs <TRUE | FALSE> (remote server indicator (default FALSE))
-host <hostname> (default no value)
-port <port number> (default no value)
-rdb <remote database name> (default no value)
-node <node name> (default no value)
-os <WIN | MVS | AIX | SUN> (operating system type (default no value))
```

-a (action)

```
-s <federated database name>
-d <directory path location cmbicmenv.ini> (default current directory)
-seeerr <TRUE | FALSE> (display error messages for add, update and
delete operations (default TRUE))
```

Examples

- This example adds an entry for a Federated database.

```
java com.ibm.mm.sdk.util.cmbdsfed -a add -s icmnlbdb -sm ICMADMIN
```


cmbcs.ini (Java connectors)

This INI file has local or remote keywords for each datastore. Local does not use RMI. The CS package for a datastore uses the server package for that datastore internally. Remote uses RMI. The CS package for a datastore uses the client package for that datastore internally.

JAR files need to run utility: cmbutil81.jar

Usage

```
java com.ibm.mm.sdk.util.cmbcs
```

Flags

Input parameter is optional if it has a default value.

-h (help)

-a <add> (action)

-dstype <datastore type>

-local <TRUE | FALSE> (use local datastore if TRUE else use remote datastore if FALSE for a particular datastore type (default TRUE))

-d <directory path location cmbclient.ini> (default current directory)

-seeerr <TRUE | FALSE> (display error messages for add, update and delete operations (default TRUE))

-a <update> (action)

-dstype <datastore type>

-local <TRUE | FALSE> (use local datastore if TRUE else use remote datastore if FALSE for a particular datastore type (default TRUE))

-d <directory path location cmbclient.ini> (default current directory)

-seeerr <TRUE | FALSE> (display error messages for add, update and delete operations (default TRUE))

-a (action)

-dstype <datastore type>

-d <directory path location cmbclient.ini> (default current directory)

-seeerr <TRUE | FALSE> (display error messages for add, update and delete operations (default TRUE))

Examples

- This example adds an entry to the cmbcs.ini.

```
java com.ibm.mm.sdk.util.cmbcs -a add -dstype ICM
```

cmbclient.ini (Java connectors)

This INI file has the datastore RMI server host name and port number.

JAR files need to run utility: cmbutil81.jar

Usage

```
java com.ibm.mm.sdk.util.cmbclient
```

Flags

Input parameter is optional if it has a default value.

-h (help)

-a <add> (action)

```
-s <federated database name>  
-sm <database schema name>  
-r <DB2> (database representation type (default DB2))  
-sso <TRUE | FALSE> (single signon supported (default FALSE))  
-dbauth <CLIENT | SERVER> (single signon supported (default SERVER))  
-d <directory path location cmbicmenv.ini> (default current directory)  
-seeerr <TRUE | FALSE> (display error messages for add, update and  
delete operations (default TRUE))
```

-a <update> (action)

```
-s <federated database name>  
-sm <database schema name>  
-r <DB2> (database representation type (default DB2))  
-sso <TRUE | FALSE> (single signon supported (default FALSE))  
-dbauth <CLIENT | SERVER> (single signon supported (default SERVER))  
-d <directory path location cmbicmenv.ini> (default current directory)  
-seeerr <TRUE | FALSE> (display error messages for add, update and  
delete operations (default TRUE))
```

-a (action)

```
-s <federated database name>  
-d <directory path location cmbicmenv.ini> (default current directory)  
-seeerr <TRUE | FALSE> (display error messages for add, update and  
delete operations (default TRUE))
```

Examples

- This example adds the entry to the cmbclient.ini.

```
java com.ibm.mm.sdk.util.cmbclient -a add -hostname myhost.corp.com  
-port 1919
```

cmbjdbcsvs.ini (JDBC connector)

This INI file has the datastore data sources. You need to add an entry for every JDBC server that should be returned from listDataSources in the JDBC connector.

JAR files need to run utility:

- cmbutil81.jar
- cmbutiljdbc81.jar

Usage

```
java com.ibm.mm.sdk.util.cmbsrvsjdbc
```

Flags

Input parameter is optional if it has a default value.

-h (help)

-a <add> (action)

```
-s <JDBC datasource>
-jdbcdriver <JDBC driver name>
-d <directory path location cmbjdbcsvs.ini> (default current directory)
-seeerr <TRUE | FALSE> (display error messages for add, update and
delete operations (default TRUE))
```

-a <update> (action)

```
-s <JDBC datasource>
-jdbcdriver <JDBC driver name>
-d <directory path location cmbjdbcsvs.ini> (default current directory)
-seeerr <TRUE | FALSE> (display error messages for add, update and
delete operations (default TRUE))
```

-a (action)

```
-s <JDBC datasource>
-d <directory path location cmbjdbcsvs.ini> (default current directory)
-seeerr <TRUE | FALSE> (display error messages for add, update and
delete operations (default TRUE))
```

Examples

- This example adds the entry to the cmbjdbcsvs.ini.

```
java com.ibm.mm.sdk.util.cmbsrvsjdbc -a add -s jdbc:db2:sample
-jdbcdriver COM.ibm.db2.jdbc.app.DB2Driver
```

Lightweight Directory Access Protocol (LDAP) data sources

These sections describe the various LDAP data sources, their purpose, and the utility JAR files required to generate them. The sections also describe their Java utility usage, flags, and examples. The `cmbutil81.jar` should always be included with the `cmbutilicm81.jar`, `cmbutilfed81.jar` and `cmbutiljdbc81.jar`.

Attention: Parenthesis contain comments and information, not utility parameters.

Refer to Table 20 for the page number that matches your type of LDAP data source. For the ICM connector, information contained in LDAP is the same as the information contained in “`cmbicmsrvs.ini` (ICM connector)” on page 160. For the Federated connector, information contained in LDAP is the same as the information contained in “`cmbds.ini` (Federated connector)” on page 162.

Table 20. Page numbers for LDAP data sources

Java connector type	<code>cmbcmenv.properties</code> keywords	IBM SecureWay	Microsoft Active Directory
ICM	CMCOMMON_LDAP	Page 167	Page 170
Federated	CMCOMMON_LDAP	Page 171	Page 174

LDAP (IBM SecureWay) data sources for Java ICM connector

This utility adds entries into the LDAP server pointed to by way of the `cmbscmenv.properties` file.

IBM SecureWay:

1. You must create the following attributes and objects using the SecureWay Directory Management Tool after your LDAP server is started. This step needs to be done before any data sources can be added.

- a. Schema → Attributes → Edit attribute

```
ibm-dkdbAuth
ibm-dkdbSchema
ibm-dkdbType
ibm-dkdsName
ibm-dkdsType
ibm-dkssso
ibm-dkscheduleAuth
ibm-dkscheduleDayOfWeek
ibm-dkscheduleEnable
ibm-dkscheduleTime
ibm-dkscheduleUID
ibm-dkscheduleUserGroup
ibm-dkRemote
ibm-dkHostName
ibm-dkPort
ibm-dkRemoteDatabase
ibm-dkNodeName
ibm-dkOSType
```

- b. Schema → Object classes → Add object class

```
ibm-dkServerType
(with required attributes) ibm-dkdsType
ibm-dkServerDef
(with required attributes) ibm-dkdsName
(with required attributes) ibm-dkdsType
(with optional attributes) ibm-dkdbAuth
(with optional attributes) ibm-dkdbSchema
(with optional attributes) ibm-dkdbType
(with optional attributes) ibm-dkssso
(with optional attributes) ibm-dkscheduleAuth
(with optional attributes) ibm-dkscheduleDayOfWeek
(with optional attributes) ibm-dkscheduleEnable
(with optional attributes) ibm-dkscheduleTime
(with optional attributes) ibm-dkscheduleUID
(with optional attributes) ibm-dkscheduleUserGroup
(with optional attributes) ibm-dkscheduleUID
(with optional attributes) ibm-dkRemote
(with optional attributes) ibm-dkHostName
(with optional attributes) ibm-dkPort
(with optional attributes) ibm-dkRemoteDatabase
(with optional attributes) ibm-dkNodeName
(with optional attributes) ibm-dkOSType
```

2. The LDAP administrator can have an organizational hierarchy created in LDAP if desired. The data sources can be created under this organization. You can import an LDIF file that contains the information about the organizations. This is optional.

For example, the file below would create the SVL organization under the root `o=IBM,c=US`. Using the SecureWay Directory Server Web Administration client through your browser (ie `http://myserver.corp.com/ldap`), and by selecting **Database** → **Import LDIF**, the administrator can import an LDIF file.

org.ldif

```
# SecureWay Directory sample LDIF file
#
# The suffix "o=IBM, c=US" should be defined before attempting to load
# this data.
version: 1

dn: o=IBM, c=US
objectclass: top
objectclass: organization
o: IBM

dn: ou=SVL, o=IBM, c=US
objectclass: organizationalUnit
ou: SVL
```

When using the `DKDatastoreICM.listDataSources` or `listDataSourceNames` the connector reads the data sources from the LDAP server. In the configuration string of the datastore, you can specify the organization to use by supplying the `LDAPORG=<org>` (for example, `org` could be `SVL` as in the examples above). This is only valid when using the IBM SecureWay LDAP server.

JAR files need to run utility: (`cmbcm81.jar`, `cmbicm81.jar`) or `icmsdk81.jar` or `cmbsdk81.jar`

Usage

```
java com.ibm.mm.sdk.server.cmbswldapicm
```

Flags

Input parameter is optional if it has a default value.

-h (help)

-a <add> (action)

-c <TRUE | FALSE> (LDAP server definition context under which server definitions will be stored (default FALSE))

-o <LDAP organization under which server definition context will be stored> (default no value)

-a (action)

-c <TRUE | FALSE> (LDAP server definition context under which server definitions will be stored (default FALSE))

-o <LDAP organization under which server definition context will be stored> (default no value)

```

-a <add> (action)
-s <library server database name>
-schema <database schema name>
-r <DB2> (database representation type (default DB2))
-sso <TRUE | FALSE> (single signon supported (default FALSE))
-dbauth <CLIENT | SERVER> (single signon supported (default SERVER))
-o <LDAP organization under which server definition context will be stored> (default no value)
-rs <TRUE | FALSE> (remote server indicator (default FALSE))
-host <hostname> (default no value)
-port <port number> (default no value)
-rdb <remote database name> (default no value)
-node <node name> (default no value)
-os <WIN | MVS | AIX | SUN> (operating system type (default no value))

-a <del> (action)
-s <library server database name>
-o <LDAP organization under which server definition context will be stored> (default no value)

```

Examples

- This example adds the entry into LDAP:
 - Create the context if it has not already been created.


```
java com.ibm.mm.sdk.server.cmbswldapicm -a add -c T -o ou=SVL
```
 - Create a data source under that context if it has not already been created. (repeat)


```
java com.ibm.mm.sdk.server.cmbswldapicm -a add -s icmnlbdb -r DB2
-sso F -dbauth S -schema ICMADMIN -o ou=SVL
```

LDAP (MS Active Directory) data sources for Java ICM connector

This utility adds entries into the LDAP server pointed to by way of the `cmbcmenv.properties` file.

JAR files need to run utility: (`cmbcm81.jar`, `cmbicm81.jar`) or `icmsdk81.jar` or `cmbsdk81.jar`

Usage

```
java com.ibm.mm.sdk.util.cmbadldapicm
```

Flags

Input parameter is optional if it has a default value.

-h (help)

-a <add> (action)

-c <TRUE | FALSE> (LDAP server definition context under which server definitions will be stored (default FALSE))

-a (action)

-c <TRUE | FALSE> (LDAP server definition context under which server definitions will be stored (default FALSE))

-a <add> (action)

-s <library server database name>

-schema <database schema name>

-r <DB2> (database representation type (default DB2))

-sso <TRUE | FALSE> (single signon supported (default FALSE))

-dbauth <CLIENT | SERVER> (single signon supported (default SERVER))

-rs <TRUE | FALSE> (remote server indicator (default FALSE))

-host <hostname> (default no value)

-port <port number> (default no value)

-rdb <remote database name> (default no value)

-node <node name> (default no value)

-os <WIN | MVS | AIX | SUN> (operating system type (default no value))

-a (action)

-s <library server database name>

Examples

- This example adds the entry into LDAP:
 - Create the context if it has not already been created.

```
java com.ibm.mm.sdk.server.cmbadldapicm -a add -c T
```
 - Create a data source under that context if it has not already been created. (repeat)

```
java com.ibm.mm.sdk.server.cmbadldapicm -a add -s icmnlbdb -r DB2 -sso F -dbauth S -schema ICMADMIN
```


LDAP (IBM SecureWay) data sources for Java Federated connector

This utility adds entries into the LDAP server pointed to by way of the `cmbscmenv.properties` file.

IBM SecureWay:

1. You must create the following attributes and objects using the SecureWay Directory Management Tool after your LDAP server is started. This step needs to be done before any data sources can be added.

- a. Schema → Attributes → Edit attribute

```
ibm-dkdbAuth
ibm-dkdbSchema
ibm-dkdbType
ibm-dkdsName
ibm-dkdsType
ibm-dkssso
ibm-dkscheduleAuth
ibm-dkscheduleDayOfWeek
ibm-dkscheduleEnable
ibm-dkscheduleTime
ibm-dkscheduleUID
ibm-dkscheduleUserGroup
ibm-dkRemote
ibm-dkHostName
ibm-dkPort
ibm-dkRemoteDatabase
ibm-dkNodeName
ibm-dkOSType
```

- b. Schema → Object classes → Add object class

```
ibm-dkServerType
(with required attributes) ibm-dkdsType
ibm-dkServerDef
(with required attributes) ibm-dkdsName
(with required attributes) ibm-dkdsType
(with optional attributes) ibm-dkdbAuth
(with optional attributes) ibm-dkdbSchema
(with optional attributes) ibm-dkdbType
(with optional attributes) ibm-dkssso
(with optional attributes) ibm-dkscheduleAuth
(with optional attributes) ibm-dkscheduleDayOfWeek
(with optional attributes) ibm-dkscheduleEnable
(with optional attributes) ibm-dkscheduleTime
(with optional attributes) ibm-dkscheduleUID
(with optional attributes) ibm-dkscheduleUserGroup
(with optional attributes) ibm-dkscheduleUID
(with optional attributes) ibm-dkRemote
(with optional attributes) ibm-dkHostName
(with optional attributes) ibm-dkPort
(with optional attributes) ibm-dkRemoteDatabase
(with optional attributes) ibm-dkNodeName
(with optional attributes) ibm-dkOSType
```

2. The LDAP administrator can have an organizational hierarchy created in LDAP if desired. The data sources can be created under this organization. You can import an LDIF file that contains the information about the organizations. This is optional.

For example, the file below would create the SVL organization under the root o=IBM,c=US. Using the SecureWay Directory Server Web Administration client through your browser (ie <http://myserver.corp.com/ldap>), and by selecting **Database → Import LDIF**, you can import an LDIF file.

org.ldif

```
# SecureWay Directory sample LDIF file
#
# The suffix "o=IBM, c=US" should be defined before attempting to load
# this data.
```

```
version: 1
```

```
dn: o=IBM, c=US
objectclass: top
objectclass: organization
o: IBM
```

```
dn: ou=SVL, o=IBM, c=US
objectclass: organizationalUnit
ou: SVL
```

When using the `dKDatastoreFed.listDataSources` or `listDataSourceNames` the connector reads the data sources from the LDAP server. In the configuration string of the datastore, you can specify the organization to use by supplying the `LDAPORG=(<org>)` (for example, `org` could be `SVL` as in the examples above). This is only valid when using the IBM SecureWay LDAP server.

JAR files need to run utility: (`cmbcm81.jar`, `cmbfed81.jar`) or `cmbsdk81.jar`

Usage

```
java com.ibm.mm.sdk.server.cmbswldapfed
```

Flags

Input parameter is optional if it has a default value.

-h (help)

-a <add> (action)

-c <TRUE | FALSE> (LDAP server definition context under which server definitions will be stored (default FALSE))

-o <LDAP organization under which server definition context will be stored> (default no value)

-a (action)

-c <TRUE | FALSE> (LDAP server definition context under which server definitions will be stored (default FALSE))

-o <LDAP organization under which server definition context will be stored> (default no value)

```

-a <add> (action)
-s <library server database name>
-schema <database schema name>
-r <DB2> (database representation type (default DB2))
-ssso <TRUE | FALSE> (single signon supported (default FALSE))
-dbauth <CLIENT | SERVER> (single signon supported (default SERVER))
-o <LDAP organization under which server definition context will be stored> (default no value)
-rs <TRUE | FALSE> (remote server indicator (default FALSE))
-host <hostname> (default no value)
-port <port number> (default no value)
-rdb <remote database name> (default no value)
-node <node name> (default no value)
-os <WIN | MVS | AIX | SUN> (operating system type (default no value))

-a <del> (action)
-s <library server database name>
-o <LDAP organization under which server definition context will be stored> (default no value)

```

Examples

- This example adds the entry into LDAP:
 - Create the context if it has not already been created.


```
java com.ibm.mm.sdk.server.cmbswldapfed -a add -c T -o ou=SVL
```
 - Create a data source under that context if it has not already been created. (repeat)


```
java com.ibm.mm.sdk.server.cmbswldapfed -a add -s icmnlsdb -r DB2
-sso F -dbauth S -schema ICMADMIN -o ou=SVL
```

LDAP (MS Active Directory) data sources for Java Federated connector

This utility adds entries into the LDAP server pointed to by way of the `cmbcmenv.properties` file.

JAR files need to run utility: (`cmbcm81.jar`, `cmbfed81.jar`) or `cmbSDK81.jar`

Usage

```
java com.ibm.mm.sdk.util.cmbadldapfed
```

Flags

Input parameter is optional if it has a default value.

-h (help)

-a <add> (action)

-c <TRUE | FALSE> (LDAP server definition context under which server definitions will be stored (default FALSE))

-a (action)

-c <TRUE | FALSE> (LDAP server definition context under which server definitions will be stored (default FALSE))

-a <add> (action)

-s <library server database name>

-schema <database schema name>

-r <DB2> (database representation type (default DB2))

-sso <TRUE | FALSE> (single signon supported (default FALSE))

-dbauth <CLIENT | SERVER> (single signon supported (default SERVER))

-rs <TRUE | FALSE> (remote server indicator (default FALSE))

-host <hostname> (default no value)

-port <port number> (default no value)

-rdb <remote database name> (default no value)

-node <node name> (default no value)

-os <WIN | MVS | AIX | SUN> (operating system type (default no value))

-a (action)

-s <library server database name>

Examples

- This example adds the entry into LDAP:
 - Create the context if it has not already been created.

```
java com.ibm.mm.sdk.server.cmbadldapfed -a add -c T
```
 - Create a data source under that context if it has not already been created. (repeat)

```
java com.ibm.mm.sdk.server.cmbadldapfed -a add -s icmnlbdb -r DB2 -sso F -dbauth S -schema ICMADMIN
```

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Glossary

This glossary defines terms and abbreviations specific to this system. Terms shown in *italics* are defined elsewhere in this glossary.

A

abstract class. An object-oriented programming *class* that represents a concept; classes derived from it represent implementations of the concept. You cannot construct an object of an abstract class; that is, it cannot be instantiated.

access control. The process of ensuring that certain functions and stored *objects* can be accessed only by authorized users in authorized ways.

access control list. A list consisting of one or more user IDs or user groups and their associated *privileges*. You use access control lists to control user access to *search templates* in the EIP system.

action list. An approved list of the actions, defined by a system administrator or some other *workflow coordinator*, that a user can perform in a *workflow* or document routing process.

ADSM. See *Tivoli® Storage Manager*.

API. See *application programming interface*.

application programming interface (API). A software interface that enables applications to communicate with each other. An API is the set of programming language constructs or statements that can be coded in an application program to obtain the specific functions and services provided by the underlying licensed program.

attribute. A unit of data that describes a certain characteristic or property (for example, name, address, age, and so forth) of an item, and which

can be used to locate that item. An attribute has a type, which indicates the range of information stored by that attribute, and a value, which is within that range. For example, information about a file in a multimedia file system, such as title, running time, or encoding type (MPEG1, H.263, and so forth). For Enterprise Information Portal, see also *federated attribute* and *native attribute*.

Audio/Video Interleaved (AVI). A RIFF (*Resource Interchange File Format*) file specification that permits audio and video data to be interleaved in a file. The separate tracks can be accessed in alternate chunks for playback or recording while maintaining sequential access on the file device.

AVI. See *Audio/Video Interleaved*.

B

binary large object (BLOB). A sequence of bytes with a size ranging from 0 bytes to 2 gigabytes. This string does not have an associated code page and character set. Image, audio, and video objects are stored in BLOBs.

BLOB. See *binary large object*.

C

cache. A special-purpose buffer, smaller and faster than main storage, used to hold a copy of data that can be accessed frequently. Use of a cache reduces access time, but might increase memory requirements.

cardinality. The number of rows in a database table.

CGI. See *Common Gateway Interface*.

CGI script. A computer program that runs on a Web server and uses the *Common Gateway*

Interface (CGI) to perform tasks that are not usually done by a Web server (for example, database access and form processing). A CGI script is a CGI program that is written in a scripting language such as Perl.

child component. Optional second or lower level of a hierarchical *item type*. Each child component is directly associated with the level above it.

CIF. See *common interchange file*.

CIU. See *common interchange unit*.

class. In object-oriented design or programming, a model or template that can be instantiated to create objects with a common definition and therefore, common properties, operations, and behavior. An object is an instance of a class.

client application. An application written with the object-oriented or Internet APIs to access *content servers* from Enterprise Information Portal.

client/server. In communications, the model of interaction in distributed data processing in which a program at one site sends a request to a program at another site and awaits a response. The requesting program is called a client; the answering program is called a server.

collection. A group of objects with a similar set of management rules.

combined search. A query that combines one or more of the following types of searches: *parametric*, *text*, or *image*.

Common Gateway Interface (CGI). A standard for the exchange of information between a Web server and programs that are external to it. The external programs can be written in any programming language that is supported by the operating system on which the Web server is running. See *CGI script*.

common interchange file (CIF). A file that contains one ImagePlus Interchange Architecture (IPIA) data stream.

common interchange unit (CIU). The independent unit of transfer for a common interchange file (CIF). It is the part of the CIF that identifies the relationship to the receiving database. A CIF can contain multiple CIUs.

component. Generic term for a *root component* or a *child component*.

connector class. Object-oriented programming *class* that provides standard access to APIs that are native to specific *content servers*.

constructor. In programming languages, a method that has the same name as a class and is used to create and initialize objects of that class.

content server. A software system that stores multimedia and business data and the related metadata required for users to work with that data. Content Manager and Content Manager ImagePlus for OS/390 are examples of content servers.

cursor. A named control structure used by an application program to point to a specific row within some ordered set of rows. The cursor is used to retrieve rows from the set.

D

data format. See *MIME type*.

datastore. (1) Generic term for a place (such as a database system, file, or directory) where data is stored. (2) In an application program, a virtual representation of a *content server*.

DDO. See *dynamic data object*.

document. An *item* that can be stored, retrieved, and exchanged among Content Manager systems and users as a separate unit. It can be any multimedia digital object. A single document can include varied types of content, including for example, *text*, *images*, and *spreadsheets*.

document type definition (DTD). The rules that specify the structure for a particular class of XML documents. The DTD defines the structure with elements, attributes, and notations, and it

establishes constraints for how each element, attribute, and notation can be used within the particular class of documents. A DTD is analogous to a database schema in that the DTD completely describes the structure for a particular markup language.

DTD. See *document type definition*.

dynamic data object (DDO). In an application program, a generic representation of a stored object that is used to move that object in to, and out of, storage.

E

extended data object (XDO). In an application program, a generic representation of a stored complex multimedia *object* that is used to move that object in to, and out of, storage. XDOs are most often contained within *DDOs*.

Extensible Markup Language (XML). A standard metalanguage for defining markup languages that was derived from, and is a subset of, SGML. XML omits the more complex and less-used parts of SGML and makes it much easier to write applications to handle document types, author and manage structured information, and transmit and share structured information across diverse computing systems. The use of XML does not require the robust applications and processing that is necessary for SGML. XML is being developed under the auspices of the World Wide Web Consortium (W3C).

F

feature. The visual content information that is stored in the image search server. Also, the visual traits that image search applications use to determine matches. The four *QBIC* features are average color, histogram color, positional color, and texture.

federated attribute. An Enterprise Information Portal metadata category that is mapped to *native attributes* in one or more *content servers*. For example, the federated attribute, *policy number*,

can be mapped to an *attribute*, *policy num*, in Content Manager and to an attribute, *policy ID*, in Content Manager ImagePlus for OS/390.

federated collection. A grouping of objects that results from a *federated search*.

federated datastore. Virtual representation of any number of specific *content servers*, such as Content Manager.

federated entity. An Enterprise Information Portal metadata object that is comprised of *federated attributes* and optionally associated with one or more *federated text indexes*.

federated search. A query issued from Enterprise Information Portal that simultaneously searches for data in one or more *content servers*, which can be heterogeneous.

federated text index. An Enterprise Information Portal metadata object that is mapped to one or more *native text indexes* in one or more *content servers*.

file system. In AIX, the method of partitioning a hard drive for storage.

folder. A container used to organize *objects*, which can be other folders or *documents*.

folder manager. The Content Manager model for managing data as online documents and folders. You can use the folder manager APIs as the primary interface between your applications and the Content Manager content servers.

H

handle. A character string that represents an object, and is used to retrieve the object.

history log. A file that keeps a record of activities for a *workflow*.

HTML. See *Hypertext Markup Language*.

Hypertext Markup Language (HTML). A markup language that conforms to the SGML standard and was designed primarily to support

the online display of textual and graphical information that includes hypertext links.

I

Image Object Content Architecture (IOCA). A collection of constructs used to interchange and present images.

index. To add or edit the attribute values that identify a specific *item* or *object* so that it can be retrieved later.

index class. See *item type*.

index class subset. In earlier Content Manager, a view of an *index class* that an application uses to store, retrieve, and display folders and objects.

index class view. In earlier Content Manager, the term used in the APIs for *index class subset*.

information mining. The automated process of extracting key information from text (summarization), finding predominant themes in a collection of documents (categorization), and searching for relevant documents using powerful and flexible queries.

interchange. The capability to import or export an image with its index from one Content Manager ImagePlus for OS/390 system to another ImagePlus system using a *common interchange file* or *common interchange unit*.

IOCA. See *Image Object Content Architecture*.

item. Generic term for the smallest unit of information that Enterprise Information Portal administers. Each item has an identifier. For example, an item might be a *folder* or a *document*.

item type. A template for defining and later locating like *items*, consisting of a *root component*, zero or more *child components*, and a classification.

item type classification. A categorization within an *item type* that further identifies the *items* of that item type. All items of the same item type have the same item type classification.

Content Manager supplies the following item type classifications: *folder*, *document*, *object*, *video*, *image*, and *text*; users can also define their own item type classifications.

iterator. A class or construct that you use to step through a collection of objects one at a time.

J

JavaBeans. A platform-independent, software component technology for building reusable Java components called “beans.” After they are built, these beans can be made available for use by other software engineers or can be used in Java applications. Using JavaBeans, software engineers can manipulate and assemble beans in a graphical drag-and-drop development environment.

Joint Photographic Experts Group (JPEG). (1) A group that worked to establish the standard for the compression of digitized continuous-tone images. (2) The standard for still pictures developed by this group.

JPEG. See *Joint Photographic Experts Group*.

K

key field. See *attribute*.

L

LAN. See *local area network*.

library client. The component of a Content Manager system that provides a low-level programming interface for the library system. The library client includes APIs that are part of the software developer’s kit.

library server. The component of a Content Manager system that stores, manages, and handles queries on *items*.

link. A directional relationship between two *items*: the parent and the child. You can use a set of links to model one-to-many associations. Contrast with *reference*.

local area network (LAN). A network in which a set of devices are connected to one another for communication and that can be connected to a larger network.

M

media archiver. A physical device that is used for storing audio and video stream data. The VideoCharger is a type of media archiver.

media server. An AIX-based component of the Content Manager system that is used for storing and accessing video files.

method. In Java design or programming, the software that implements the behavior specified by an operation. Synonymous with member function in C++.

MIME type. An Internet standard for identifying the type of object being transferred across the Internet. MIME types include several variants of audio, image, and video. Each object has a MIME type.

multimedia. Combining different media elements (text, graphics, audio, still image, video, animation) for display and control from a computer.

multimedia file system. A *file system* that is optimized for the storage and delivery of video and audio.

Multipurpose Internet Mail Extensions (MIME)
. See *MIME type*.

N

native attribute. A characteristic of an object that is managed on a specific *content server* and that is specific to that content server. For example, the *key field policy num* might be a native attribute in a Content Manager content server, whereas the field *policy ID* might be a native attribute in an Content Manager OnDemand content server.

native entity. An *object* that is managed on a specific *content server* and that is comprised of

native attributes. For example, Content Manager *index classes* are native entities comprised of Content Manager *key fields*.

native text index. An index of the text *items* that are managed on a specific *content server*. For example, a single text search index on a Content Manager content server.

network table file. A text file that contains the system-specific configuration information for each node in a Content Manager system. Each node in the system must have a network table file that identifies the node and lists the nodes that it needs to connect to.

The name of a network table is FRNOLINT.TBL.

O

object. Any digital content that a user can store, retrieve and manipulate as a single unit, for example, *JPEG* images, *MP3* audio, *AVI* video, and a text block from a book.

Object Linking and Embedding (OLE). A Microsoft specification for both linking and embedding applications so that they can be activated from within other applications.

object server. See *resource manager*.

object server cache. See *resource manager cache*.

OLE. See *Object Linking and Embedding*.

overlay. A collection of predefined data such as lines, shading, text, boxes, or logos, that can be merged with variable data on a page during printing.

P

package. A collection of related *classes* and interfaces that provides access protection and namespace management.

parametric search. A query for *objects* that is based on the *properties* of the objects.

part. See *object*.

persistent identifier (PID). An identifier that uniquely identifies an *object*, regardless of where it is stored. The PID consists of both an item ID and a location.

PID. See *persistent identifier*.

privilege. The right to access a specific *object* in a specific way. Privileges includes rights such as creating, deleting, and selecting objects stored in the system. Privileges are assigned by the administrator.

privilege set. A collection of *privileges* for working with system components and functions. The administrator assigns privilege sets to users (user IDs) and *user groups*.

property. A characteristic of an *object* that describes the object. A property can be changed or modified. Type style is an example of a property.

Q

QBIC. See *query by image content*.

query by image content (QBIC). A query technology that enables searches based on visual content, called features, rather than plain text. Using QBIC, you can search for objects based on their visual characteristics, such as color and texture.

query string. A character string that specifies the properties and property values for a query. You can create the query string in an application and pass it to the query.

R

rank. An integer value that signifies the relevance of a given part to the results of a query. A higher rank signifies a closer match.

README file. A file that should be viewed before the program associated with it is installed or run. A README file typically contains last-minute product information, installation information, or tips for using the product.

reference. Single direction, one-to-one association between a root or *child component* and another *root component*. Contrast with *link*.

release. To remove suspend criteria from an *item*. A suspended item is released when the criteria have been met, or when a user with proper authority overrides the criteria and manually releases it.

Remote Method Invocation (RMI). A set of APIs that enables distributed programming. An object in one Java Virtual Machine (JVM) can invoke methods on objects in other JVMs.

render. To take data that is not typically image-oriented and depict or display it as an image. In Content Manager, word-processing documents can be rendered as images for display purposes.

Resource Interchange File Format (RIFF) . Used for storing sound or graphics for playback on different types of computer equipment.

resource manager. The component of a Content Manager system that manages *objects*. These objects are referred to by *items* stored on the *library server*.

resource manager cache. The working storage area for the *resource manager*. Also called the *staging area*.

RIFF. See *Resource Interchange File Format*.

RMI server. A server that implements the Java *Remote Method Invocation (RMI)* distributed object model.

root component. The first or only level of a hierarchical *item type*, consisting of related system- and user-defined *attributes*.

S

search criteria. In Enterprise Information Portal, specific fields that an administrator defines for a *search template* that limit or further define choices available to the *users*.

search template. A form, consisting of *search criteria* designed by an administrator, for a specific type of federated search. The administrator also identifies the *users* and *user groups* who can access each search template.

semantic type. The usage or rules for an *item*. Base, annotation, and note are semantic types supplied by Content Manager; users can also define their own semantic types.

server definition. The characteristics of a specific *content server* that uniquely identify it to Enterprise Information Portal.

server inventory. The comprehensive list of *native entities* and *native attributes* from specified *content servers*.

server type definition. The list of characteristics, as identified by the administrator, required to uniquely identify a custom server of a certain type to Enterprise Information Portal.

staging. The process of moving a stored *object* from an offline or low-priority device back to an online or higher priority device, usually on demand of the system or on request of a user. When a user requests an object stored in permanent storage, a working copy is written to the *staging area*.

staging area. The working storage area for the *resource manager*. Also referred to as *resource manager cache*.

streamed data. Any data sent over a network connection at a specified rate. A stream can be one data type or a combination of types. Data rates, which are expressed in bits per second, vary for different types of streams and networks.

subclass. A *class* that is derived from another class. One or more classes might be between the class and subclass.

superclass. A *class* from which a class is derived. One or more classes might be between the class and superclass.

suspend. To remove an *object* from its *workflow* and define the suspension criteria needed to activate it. Later activating the object enables it to continue processing.

T

thin client. A client that has little or no installed software but has access to software that is managed and delivered by network servers that are attached to it. A thin client is an alternative to a full-function client such as a workstation.

Tivoli Storage Manager (TSM). A *client/server* product that provides storage management and data access services in a heterogeneous environment. It supports various communication methods, provides administrative facilities to manage the backup and storage of files, and provides facilities for scheduling backup operations.

TSM. See *Tivoli Storage Manager*.

TSM volume. A logical area of storage that is managed by *Tivoli Storage Manager*.

U

uniform resource locator (URL). A sequence of characters that represent information resources on a computer or in a network such as the Internet. This sequence of characters includes the abbreviated name of the protocol used to access the information resource and the information used by the protocol to locate the information resource. For example, in the context of the Internet, these are abbreviated names of some protocols used to access various information resources: http, ftp, gopher, telnet, and news.

user. In Enterprise Information Portal, anyone who is identified in the Enterprise Information Portal administration program.

user exit. A point in an IBM-supplied program at which a user exit routine can be given control.

user exit routine. A user-written routine that receives control at predefined *user exits*.

user group. A group consisting of one or more defined individual *users*, identified by a single group name.

user mapping. Associating Enterprise Information Portal user IDs and passwords to corresponding user IDs and passwords in one or more content servers. User mapping enables single logon to Enterprise Information Portal and multiple *content servers*.

V

volume. A representation of an actual physical storage device or unit on which the objects in your system are stored.

W

wildcard character. A special character such as an asterisk (*) or a question mark (?) that can be used to represent one or more characters. Any character or set of characters can replace a wildcard character.

workflow. In EIP, a sequence of *work steps*, and the rules governing those steps, through which a *work packet*, *document*, or *folder* travels while it is being processed.

For example, claims approval would describe the process that an individual insurance claim must follow for approval.

workflow state. The status of an entire *workflow*.

work item. In earlier Content Manager workflow and Enterprise Information Portal advanced workflow, any work activity that is active within a *workflow*.

worklist. A collection of *work items*, *documents*, or *folders* that are assigned to a user.

work packet. In Enterprise Information Portal Version 7.1, a collection of *documents* that is routed from one location to another. Users access and work with work packets through *worklists*.

work state. The status of an individual *work item*, *document*, or *folder*.

work step. A discrete point in a *workflow* or *document routing process* through which an individual *work item*, *document*, or *folder* must pass.

X

XDO. See *extended data object*.

XML. See *Extensible Markup Language*.

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