IBM FileNet P8 Platform
Version 4.5.1

Installation Guide for installation on Microsoft Windows with Microsoft SQL Server, Oracle WebLogic Server, and Windows Active Directory

IBM ®

GC19-2842-01

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Note

Before using this information and the product it supports, read the information in “Notices” on page 225.

This edition applies to version 4.5.1 of IBM FileNet Content Manager (product number 5724-R81), version 4.5.1 of IBM FileNet Business Process Manager (product number 5724-R76), and to all subsequent releases and modifications until otherwise indicated in new editions.

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ibm.com and related resources

Product support and documentation are available from ibm.com.

Support and assistance

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

FileNet Content Manager Support
http://www.ibm.com/software/data/content-management/filenet-content-manager/support.html

Information center

You can view the product documentation in an Eclipse-based information center that you can install when you install the product. By default, the information center runs in a Web server mode that other Web browsers can access. You can also run it locally on your workstation. See the information center at http://publib.boulder.ibm.com/infocenter/p8docs/v4r5m1/index.jsp.

PDF publications

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

See the following PDF publications Web sites:

Product	Web site
Product Documentation for FileNet P8 Platform	http://www.ibm.com/support/docview.wss?rs=3278 &uid=swg27010422

"How to send your comments"
Your feedback is important in helping to provide the most accurate and highest quality information.

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

How to send your comments

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

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

Consumability survey

You are invited to tell IBM how to improve the consumability of software products. If you want to help IBM make IBM® FileNet® P8 easier to use, take the Consumability Survey at http://www.ibm.com/software/data/info/consumability-survey/.

Contacting IBM

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

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

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

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

Part 1. Installing and configuring IBM FileNet P8 Platform

To set up IBM FileNet P8 Platform you install and configure the software and documentation for a number of core components, including Content Engine, Content Search Engine, Process Engine, and Application Engine.

As an alternative to the Application Engine component and its Workplace user application, you can set up Workplace XT. See the Workplace XT documentation for details.

"Installing IBM FileNet P8 Platform documentation" on page 3
You can link to the online version of the IBM FileNet P8 Platform documentation, or install and deploy the documentation package as part of your FileNet P8 environment.

"Installing and configuring Content Engine" on page 9
Content Engine is the content-management component of IBM FileNet P8 platform. To set up Content Engine, you install the content-management server software on an application server, and then configure and deploy the Content Engine web application. You must also configure the Global Configuration Data (GCD), create the FileNet P8 domain, and create at least one object store. The GCD contains system information about your particular configuration. The object stores contain information about the documents, records, forms, and other business objects that you store in your IBM FileNet P8 system.

"Installing and configuring Content Search Engine" on page 63
This topic explains how to install and configure Content Search Engine.

"Installing and configuring Process Engine" on page 79
Installing and configuring Process Engine is a process requiring multiple steps, and the steps must be followed in sequence.

"Installing and configuring Application Engine" on page 93
Application Engine provides a client application called Workplace that you can use to access the information managed by Content Engine. After you install the server, you must also configure your application server to work with Application Engine, and deploy the application.

"Configuration and startup tasks" on page 111
After you install the IBM FileNet P8 components, there are some additional steps to configure the IBM FileNet P8 system. After you configure the IBM FileNet P8 components, familiarize yourself with IBM FileNet P8 system startup and shutdown procedures. See the **System Administration** → **Enterprise-wide Administration** → **Startup and Shutdown** help topic.

"Optional installation tasks" on page 123
You can install the additional or optional IBM FileNet P8 components in any order.

Installing IBM FileNet P8 Platform documentation

You can link to the online version of the IBM FileNet P8 Platform documentation, or install and deploy the documentation package as part of your FileNet P8 environment.

You can link your FileNet P8 software directly to the IBM FileNet P8 Platform Version 4.5.1 information center on www.ibm.com. The advantages of linking to the ibm.com information center are as follows:

- You do not have to maintain a documentation server or information center.
- The documentation is always up to date.

If you want to use the online information center, you do not need to install any documentation in your environment. During the installation and configuration of your IBM FileNet P8 Platform components, provide the following link for your P8 documentation URL: http://publib.boulder.ibm.com/infocenter/p8docs/v4r5m1/topic/com.ibm.p8.doc

If you want the documentation to be deployed directly in your FileNet P8 environment, you must install the ecm_help documentation package.

The procedures you follow to install the IBM FileNet P8 documentation package depend on whether your installation needs to include more than the core documentation for IBM FileNet P8 Platform. If you need to add IBM FileNet P8 documentation, then you must complete additional steps.

The other documentation that you might need to install can be for IBM FileNet P8 expansion products, for example, IBM FileNet Process Analyzer, IBM FileNet Process Simulator, IBM FileNet eForms for P8, IBM FileNet Content Federation Services, or IBM InfoSphere™ Enterprise Records. You might also include auxiliary documentation that includes release notes, technical notices, or documentation that is provided with a customized application.

1. "Before you install the ecm_help documentation package" on page 4
   If you intend to access online help from any IBM FileNet P8 applications, for example, Workplace, Enterprise Manager, and Process Task Manager, or use the full-text search feature, you must install the documentation for IBM FileNet P8 Platform information center on a supported Web application server, for example, IBM WebSphere® Application Server, Oracle WebLogic Server, or JBoss Application Server.
2. "Installing the core IBM FileNet P8 Platform documentation" on page 4
   You must install the core IBM FileNet P8 Platform documentation as a Web application on a supported application server to view and search installation, administration, and user information.
3. "Installing and re-indexing expansion-products, custom, and auxiliary documentation" on page 5
   To install documentation for IBM FileNet P8 expansion products, you must copy that documentation onto the application server where IBM FileNet P8 Platform documentation is already installed. You then rebuild the documentation search index.
4. "Starting and verifying the IBM FileNet P8 documentation Web application" on page 7

After you install and optionally index the IBM FileNet P8 documentation again on the application server, verify that you can access its URL address and run its search feature. These tests ensure that the installed documentation can be used as a help system in the various IBM FileNet P8 component applications.

5. “Backing up and redeploying the FileNet P8 documentation” on page 8
After you verify the installation of your FileNet P8 documentation, it is a best practice to store a backup copy. This action prepares you for quicker recovery from disaster and for future redeployment to other servers. Backing up a copy is especially advisable if you have expansion-product documentation installed with the core IBM FileNet P8 Platform documentation.

Before you install the ecm_help documentation package

If you intend to access online help from any IBM FileNet P8 applications, for example, Workplace, Enterprise Manager, and Process Task Manager, or use the full-text search feature, you must install the documentation for IBM FileNet P8 Platform information center on a supported Web application server, for example, IBM WebSphere Application Server, Oracle WebLogic Server, or JBoss Application Server.

Optionally, you can install and index auxiliary documentation that is available only on the IBM Web site. You make this documentation searchable with the rest of the installed product documentation. For a complete list of additional documentation, see "Gather auxiliary documentation" in *Plan and Prepare Your Environment for IBM FileNet P8*.

You can use multipart root directories if your application server supports them, for example, `/docs/ecm_help` instead of simply `/ecm_help`.

You can collocate the documentation information center on an application server with either Application Engine or Content Engine server components installed. You can also install it on a separate application server.

Consider the following installation requirements by application server type:

Table 1. Documentation installation requirements

Application server	Requirement
WebLogic Server	You cannot install the IBM FileNet P8 help files as WAR or EAR files because the internal documentation search engine cannot function as expected. You must extract the `ecm_help.war` file or use the `ecm_help` flat file structure to install the IBM FileNet P8 documentation.

Installing the core IBM FileNet P8 Platform documentation

You must install the core IBM FileNet P8 Platform documentation as a Web application on a supported application server to view and search installation, administration, and user information.

Before you install the FileNet P8 information center, you must ensure that you have Java™ support enabled on the application server you choose. You must also fulfill other application server requirements and determine the scope of the documentation you plan to install.

- For Oracle WebLogic Server and JBoss Application Server, a valid Java SDK must be available for the application server.
- To ensure that the documentation can be searched, ensure that JavaScript™ support is enabled on each browser client.
- Depending on your operating system and application server levels, your options might be slightly different from the options that are documented.

To install the core IBM FileNet P8 Platform documentation:

1. Access the IBM FileNet P8 Platform documentation package and perform the following actions. The deploy operation can take several minutes because of the size of the documentation files.

Option	Description
Oracle WebLogic Server	1. Extract the IBM FileNet P8 `ecm_help.war` file or copy the entire `ecm_help` directory structure from the IBM FileNet P8 documentation package to a location on the local hard drive. 2. From the WebLogic administrative console, install a new Web application for the IBM FileNet P8 Platform documentation.

2. Add more documentation or continue with verifying the documentation Web application:
   - To add documentation for any IBM FileNet P8 expansion product or any auxiliary documentation, such as release notes or technical notices, continue with "Installing and re-indexing expansion-products, custom, and auxiliary documentation."
   - If you have no further documentation to install, continue with "Starting and verifying the IBM FileNet P8 documentation Web application" on page 7.

Installing and re-indexing expansion-products, custom, and auxiliary documentation

To install documentation for IBM FileNet P8 expansion products, you must copy that documentation onto the application server where IBM FileNet P8 Platform documentation is already installed. You then rebuild the documentation search index.

Optionally, you can copy auxiliary documentation that is available solely on the IBM Web site into your IBM FileNet P8 documentation Web application. You can then search the auxiliary documentation in the documentation search feature. For example, you can copy *IBM FileNet P8 Release Notes®* and *IBM FileNet P8 Troubleshooting Guide* from the IBM Web site to the documentation server. Users looking for product news or troubleshooting information can then find information quickly from the documentation Web application.

Also, you might be required to install documentation for a customized application onto the IBM FileNet P8 documentation server. Check with your application vendor for installation details.

Important: Every time you update the documentation search index, a backup copy of the files in the existing `Index/core` subdirectory is automatically copied to the

Index/IndexOld subdirectory. If you must return to the previous indexed state, you can reapply these backed up files to the Index/core subdirectory. You must first move or delete the files that are created there.

To install and index expansion product, custom, and auxiliary documentation:

1. Determine the expansion products documentation location, either on local media source or a network location. For most expansion products, use the documentation package that is included as part of the particular software product.
2. Stop the IBM FileNet P8 Platform ecm_help documentation application:

Option	Description
Oracle WebLogic Server	Use the administrative console.

3. Verify that no processes are accessing the documentation Web application.
4. Copy the IBM FileNet P8 expansion product documentation, to the core IBM FileNet P8 Platform documentation location. Include all directories and files below the ecm_help directory.

   By default, the IBM FileNet P8 Platform documentation is installed in an ecm_help directory.

   You can copy documentation sets for more than one expansion product to the documentation application server. When you finish, you have one ecm_help directory structure that contains the core documentation set and one or more sets of expansion product documentation files.
5. Download the latest Web-posted updates of planning and installation guides for IBM FileNet P8 Platform and the various expansion products you use.
6. Download any auxiliary documentation you want included in documentation searches to the ecm_help/installation/web directory in the core IBM FileNet P8 Platform documentation location.
7. Install the documentation for any custom application that is integrated with the IBM FileNet P8 Platform documentation. See the instructions provided with that software product.
8. To index the new documentation, open a terminal or command prompt on the application server.
9. From the command line, navigate to the search subdirectory under the application root directory, for example, ecm_help.
10. Complete the search indexing steps:

Option	Description
Windows®	1. Modify the search-indexing script file by setting Read and Execute permissions on the `indexFiles.bat` file, which is preset to read-only permissions in the documentation package. 2. Using a text editor, open the `indexFiles.bat` search-indexing script file. 3. If necessary for your environment, set the JAVA_HOME variable in the script file with the path to your Java Runtime Environment (JRE) installation location. **Important:** The Java JRE installation subdirectory can be user-defined, so substitute your actual location. 4. Save your changes and close the text editor. 5. From the `ecm_help/search` directory, run the updated `indexFiles.bat` search-indexing script file. As you run the script file, you might notice periodic Parse Abort errors. You can ignore these error conditions because they are benign and do not affect the overall indexing process.

Related information

Product documentation for IBM FileNet P8 Platform
Download the latest web-posted updates of the planning and installation guides, as well as the rest of the IBM FileNet P8 Platform documentation.

Starting and verifying the IBM FileNet P8 documentation Web application

After you install and optionally index the IBM FileNet P8 documentation again on the application server, verify that you can access its URL address and run its search feature. These tests ensure that the installed documentation can be used as a help system in the various IBM FileNet P8 component applications.

To verify the IBM FileNet P8 documentation installation:

1. Start the IBM FileNet P8 documentation Web application (`ecm_help`) on the application server.
2. From a Web browser, access the documentation URL by using the application server name and port number for your Web environment, for example:

Option	Description
Oracle WebLogic Server	http://*yourdocserver*:7001/ecm_help/

If the installation was a success, the IBM FileNet P8 documentation opens the same way as for an IBM FileNet P8 component application.

3. Note the URL for your application server because you must enter it as the documentation URL for the IBM FileNet P8 components while running installation programs or setting site preferences later, for example, in Workplace or Workplace XT.
4. Click the **Search** link on the Help Directory toolbar and verify that it opens the documentation Search page.
5. Enter a value for your Search query and verify that the query runs as expected.
6. Select one of the Search query result links and verify that the help page opens.

Backing up and redeploying the FileNet P8 documentation

After you verify the installation of your FileNet P8 documentation, it is a best practice to store a backup copy. This action prepares you for quicker recovery from disaster and for future redeployment to other servers. Backing up a copy is especially advisable if you have expansion-product documentation installed with the core IBM FileNet P8 Platform documentation.

To back up your FileNet P8 documentation for easy recovery or redeployment:

1. Create an `ecm_help.war` or `ecm_help` compressed file that contains the entire `ecm_help` directory structure.
2. Place the file into a safe storage area that you can readily access to redeploy the FileNet P8 documentation to new or updated application servers.

Installing and configuring Content Engine

Content Engine is the content-management component of IBM FileNet P8 platform. To set up Content Engine, you install the content-management server software on an application server, and then configure and deploy the Content Engine web application. You must also configure the Global Configuration Data (GCD), create the FileNet P8 domain, and create at least one object store. The GCD contains system information about your particular configuration. The object stores contain information about the documents, records, forms, and other business objects that you store in your IBM FileNet P8 system.

You install the Content Engine software once on each web application server in your environment. You can configure and deploy one or more Content Engine application instances on that server. A single Content Engine application instance equates to one deployed application on your application server.

When you deploy Content Engine in an Oracle WebLogic Server managed environment, you must install and configure Content Engine on the administrative node to avoid cross-network configuration issues. Install and configure Content Engine on the administration server. Then use the administration server tools to deploy the Content Engine EAR file to the managed servers. The managed servers can be in a cluster.

1. "Installing Content Engine and related client software" on page 10
   You must install the Content Engine software and related client software to place the binary files for its components on the server.
2. "Configuring Content Engine" on page 18
   You can configure and deploy all of your Content Engine instances with Configuration Manager. Configuration Manager prepares the Content Engine application for deployment on the application server. A single Content Engine application instance equates to one deployed application on your application server.
3. "Deploying Content Engine instances" on page 41
   Depending on your environment, you can use the Configuration Manager graphical user interface, or the command line, to deploy Content Engine instances.
4. "Installing storage device source files" on page 47
   If your IBM FileNet P8 system includes IBM Tivoli® Storage Manager or EMC Centera devices, you must install files on the Content Engine server.
5. "Completing Content Engine post-deployment steps" on page 51
   You must complete the post-deployment web application server configuration before you can put an IBM FileNet P8 system into production.
6. "Verifying the Content Engine deployment" on page 51
   You can verify that the Content Engine deployment was successful by accessing the IBM FileNet P8 System Health page.
7. "Establishing the FileNet P8 domain and Global Configuration Data (GCD)" on page 53
   With Content Engine installed and deployed, you must use IBM FileNet Enterprise Manager to create a FileNet P8 domain. You can also use Enterprise Manager to set a URL to the FileNet P8 online help if you did not specify the location when you ran the Content Engine installation program.

8. “Creating the data sources for an object store” on page 54
   Each object store in your site requires its own JDBC data sources. You can configure the data sources by using the Configuration Manager graphical user interface or the command line.
9. “Creating the initial object store” on page 59
   You create an initial object store in Content Engine to store your documents and other objects. After an object store is created, you can refine its definition and add content to it.
10. “Verifying the Content Engine installation” on page 60
   You can verify that the Content Engine installation succeeded by using IBM FileNet Enterprise Manager to create a folder and a document in each object store and then check the new document out and in.

Installing Content Engine and related client software

You must install the Content Engine software and related client software to place the binary files for its components on the server.

1. “Installing Content Engine”
   You must install the Content Engine software to place the binary files for its components on the server. You can install the software interactively with a wizard or silently from the command line.
2. “Installing Enterprise Manager” on page 13
   You must install IBM FileNet Enterprise Manager to administer content in an Enterprise Content Management system. You install this software by running the Content Engine installer.
3. “Installing Content Engine software updates” on page 14
   You must install the latest software updates, fix packs, or interim fixes for the Content Engine software to ensure optimal operation.
4. “Installing the latest Content Search Engine Client files on Content Engine servers” on page 14
   The Content Search Engine Client files make it possible for the Content Search Engine server component to communicate with the Content Engine servers.
5. “Installing the latest Process Engine Client files on Content Engine servers” on page 16
   Install the Process Engine Client files on the Content Engine to enable communication between Content Engine and Process Engine. You can install the files interactively by using the installation wizard or silently by using the command line and a silent input file.

Installing Content Engine

You must install the Content Engine software to place the binary files for its components on the server. You can install the software interactively with a wizard or silently from the command line.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

You can install the Content Engine components shown in the following table. Note that some of the components can be installed only on Windows.

Table 2. Content Engine components

Component	Required Platform	Description
Content Engine Server	UNIX® or Windows	Install this software as the major Content Engine component. When you installContent Engine Server, Configuration Manager is also installed.
Configuration Manager	UNIX or Windows	Install this software as the primary tool to configure and maintain Content Engine installations. When you installContent Engine Server, Configuration Manager is also installed.
.NET Clients (including Enterprise Manager)	Windows only	Install this software only on machines where you intend to run either the Enterprise Manager administrative client or a customized client application.
Content Engine Upgrader	Windows only	Install this tool only if you are upgrading Content Engine and Content Search Engine data from version 3.5.
FileNet Deployment Manager	Windows only	Install this tool only if you must deploy test systems into full production. See the IBM FileNet P8 help topic **Application Deployment → Get Started with FileNet Deployment Manager** for details about how you might use this tool.

"Installing Content Engine interactively"
To install Content Engine interactively, you run a wizard that prompts you for an installation path and the Content Engine components to be installed.

"Installing Content Engine silently" on page 12
When you install Content Engine silently, you run a command in the Content Engine software package that references parameters in an installation text file.

Related concepts

Installation and upgrade worksheet
See the information about the worksheet in *Plan and Prepare Your Environment for IBM FileNet P8*.

Installing Content Engine interactively

To install Content Engine interactively, you run a wizard that prompts you for an installation path and the Content Engine components to be installed.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

To install Content Engine:

1. Open your completed Installation and Upgrade Worksheet file.

Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Content Engine values, filter by **CE Installer** in the **Installation or Configuration Program** column.

2. Log on as *ce_install_user* to the application server machine where you are going to install Content Engine software.
3. Navigate to the Content Engine software package in the installation media.
4. Run one of the following programs in the software package, depending on your operating system:

Platform	Command
Windows	`P8CE-4.5.1-WIN.EXE`

5. Complete the Content Engine installer screens by using the values from your worksheet.
6. Review the status messages in the final wizard screen, and close the wizard.
7. When the installation completes, click **Done** and check for errors in the Content Engine *ce_install_path*/`ce_install_log_4_5_1.txt` error log file, where *ce_install_path* is the location where Content Engine is installed.

Related concepts

Installation and Upgrade Worksheet
For more information about Content Engine parameter values, see *Plan and Prepare Your Environment for IBM FileNet P8.*

Installing Content Engine silently

When you install Content Engine silently, you run a command in the Content Engine software package that references parameters in an installation text file.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

To install Content Engine:

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Content Engine values, filter by **CE Installer** in the **Installation or Configuration Program** column.
2. Log on as *ce_install_user* to the application server machine where you are going to install Content Engine software.
3. Navigate to the Content Engine software package in the installation media.
4. Edit the `CE_silent_install.txt` file to reflect the installation choices in your worksheet.
5. Run one of the following commands in the software package, depending on your operating system:

Platform	Command
Windows	`P8CE-4.5.1-WIN.EXE -f CE_silent_install.txt -i silent`

6. When the installation completes, check for errors in the Content Engine error log file *ce_install_path*/`ce_install_log_4_5_1.txt`, where *ce_install_path* is the location where Content Engine is installed.

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Installing Enterprise Manager

You must install IBM FileNet Enterprise Manager to administer content in an Enterprise Content Management system. You install this software by running the Content Engine installer.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

If you did not install Enterprise Manager when you installed the Content Engine software, you can install it now on the same Windows server or on some other Windows computer.

Tip: An icon labeled **FileNet Enterprise Manager Administration Tool** on the desktop of the Content Engine server indicates that Enterprise Manager has been installed.

Important: You cannot install Enterprise Manager on a UNIX machine.

To install Enterprise Manager:

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Content Engine values, filter by **CE Installer** in the **Installation or Configuration Program** column.
2. On the machine where you install Enterprise Manager, log on as a member of the Local Administrators group or the Power Users group.
3. If you have not already done so, install the required Windows components.

Option	Description
Microsoft® Windows XP, Microsoft Windows Server 2003	Microsoft .NET Framework 2.0 and Web Services Enhancements (WSE) 3.0
Content Engine version 4.5.1 Fix Pack 002 or higher with Microsoft Windows Vista, Microsoft Windows Server 2008, or Microsoft Windows 7	Microsoft .NET Framework 3.0 and Windows Communication Foundation (WCF)

4. Access the Content Engine software package.
5. Start the Enterprise Manager installation.

Option	Description
To install interactively	1. Run the following command in the software package: `P8CE-4.5.1-WIN.exe`. 2. Complete the installation program wizard.

Option	Description
To install silently	1. Open the `CE_silent_install.txt` file in the software package for editing. 2. Set the parameter values in the `CE_silent_install.txt` file for your site. Be sure to set the CHOSEN_INSTALL_FEATURE_LIST parameter value to: **DotNetClients,AdminTools** 3. Save your edits. 4. Run the following command in the software package on a single line: `P8CE-4.5.1-WIN.EXE -f CE_silent_install.txt -i silent`

Installing Content Engine software updates

You must install the latest software updates, fix packs, or interim fixes for the Content Engine software to ensure optimal operation.

If no Content Engine software updates are available, skip this procedure.

To install the Content Engine software updates:

1. Access the IBM FileNet P8 Platform support site to obtain the latest Content Engine software updates.
2. Open the readmes for the Content Engine software updates and perform the installation procedures in the readmes on each Content Engine instance.

Related information

IBM FileNet P8 Platform documentation and support
Obtain the latest Content Engine software updates, as well as the rest of the IBM FileNet P8 Platform documentation.

Installing the latest Content Search Engine Client files on Content Engine servers

The Content Search Engine Client files make it possible for the Content Search Engine server component to communicate with the Content Engine servers.

Important: With the initial release of Content Engine 4.5.1, the Content Search Engine 4.5.1 client files are included. Therefore, you are not required to manually install these client files on a new Content Engine server. However, if fix packs of these client files become available, install them manually before you use Configuration Manager to configure and deploy Content Engine. For instructions on how to obtain the latest Content Search Engine Client software updates, access the IBM FileNet P8 Platform support site.

You can manually install Content Search Engine Client files either interactively or silently:

1. “Installing Content Search Engine Client files interactively”
   You can install the Content Search Engine Client files interactively by running the installation program on all application server machines where Content Engine Server is installed.
2. “Installing Content Search Engine Client files silently”
   You can install the Content Search Engine Client files silently by editing a silent input file and running the installation program from a command line. You must install Content Search Engine Client files on all application server machines where Content Engine Server is installed.

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Installing Content Search Engine Client files interactively

You can install the Content Search Engine Client files interactively by running the installation program on all application server machines where Content Engine Server is installed.

Be sure that you have available the Installation and Upgrade Worksheet that was filled out during your planning activities.

To install Content Search Engine Client files:

1. On the machine where Content Engine is to be deployed, log on as *ce_install_user*.
2. Locate the Content Search Engine Client installation software. It must be the same version as your Content Search Engine Server software. You must install Content Search Engine and Content Engine software on the same operating system. For example, if Content Engine runs on Windows, locate the Content Search Engine Client installation software that runs on Windows.
3. Start the installation program.

Operating System	Installation Program
Windows	`P8CSE-CLIENT-4.5.1-WIN.EXE`

4. Complete the Content Search Engine Client installation screens by using the values from your worksheet.
5. Review the following Content Search Engine Client log files:
   - Windows - *cse_client_install_path*\CSEClient_install_log_4.5.1.0.log

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Installing Content Search Engine Client files silently

You can install the Content Search Engine Client files silently by editing a silent input file and running the installation program from a command line. You must install Content Search Engine Client files on all application server machines where Content Engine Server is installed.

Be sure that you have available the Installation and Upgrade Worksheet that was filled out during your planning activities.

To install Content Search Engine Client files:

1. On the machine where Content Engine is to be deployed, log on as *ce_install_user*.
2. Locate the Content Search Engine Client installation software. It must be the same version as your Content Search Engine Server software. You must install Content Search Engine and Content Engine software on the same operating system. For example, if Content Engine runs on Windows, locate the Content Search Engine Client installation software that runs on Windows.
3. Locate the `CSE_silent_install.txt` file within the directory that contains the Content Search Engine Client installation software, and edit the file to specify the location where you want to install the Content Search Engine Client files.

   The default installation paths are as follows:

   Windows

   `C:\Program Files\IBM\FileNet\ContentEngine\CSEClient`
4. Start the Content Search Engine Client installation program.

Operating System	Installation Program
Windows	`P8CSE-CLIENT-4.5.1-WIN.EXE –f CSEClient_silent_install.txt –i silent`

5. Review the following Content Search Engine Client log files:
   - Windows - *`cse_client_install_path`*`\CSEClient_install_log_4.5.1.0.log`

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Installing the latest Process Engine Client files on Content Engine servers

Install the Process Engine Client files on the Content Engine to enable communication between Content Engine and Process Engine. You can install the files interactively by using the installation wizard or silently by using the command line and a silent input file.

"Installing the latest Process Engine Client files on Content Engine servers interactively"
The installation wizard provides an interactive way to install the Process Engine Client files. You can use the values you collected on your worksheet to fill in the required value for each field on the wizard screens.

"Installing the latest Process Engine Client files on Content Engine servers silently" on page 17
You can install the Process Engine Client software on the Content Engine server by using a silent input text file and running the installation program from the command line. Use the values in your installation worksheet to edit the silent input text file before you run the installation.

Installing the latest Process Engine Client files on Content Engine servers interactively

The installation wizard provides an interactive way to install the Process Engine Client files. You can use the values you collected on your worksheet to fill in the required value for each field on the wizard screens.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

Except where noted, the following steps apply to IBM WebSphere Application Server, Oracle WebLogic Server, and JBoss Application Server.

To install the Process Engine Client files:

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Content Engine values, filter by **PE Client Installer** in the **Installation or Configuration Program** column.
2. On the machine where Content Engine is to be deployed, log on as *ce_install_user*.
3. Locate the Process Engine Client installation software. The version of the Process Engine Client software must match the version of Process Engine software.
4. Expand the TAR or ZIP file of the Process Engine Client installation software.
5. Start the installation program by running the following command.

Operating System	Install Program
Windows	`P8PE-CLIENT-`*`PE_version`*`-WIN.EXE`

6. Complete the Process Engine Client installation screens by using the values from your worksheet.
7. If the Process Engine is configured to use the IPv6 network protocol, locate and edit the taskman.properties file and add the following lines to that file:

```
-Djava.net.preferIPv6Addresses=true
-Djava.net.preferIPv4Stack=false
```

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Installing the latest Process Engine Client files on Content Engine servers silently

You can install the Process Engine Client software on the Content Engine server by using a silent input text file and running the installation program from the command line. Use the values in your installation worksheet to edit the silent input text file before you run the installation.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

Except where noted, the following steps apply to IBM WebSphere Application Server, Oracle WebLogic Server, and JBoss Application Server.

To install the Process Engine Client files:

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Content Engine values, filter by **PE Client Installer** in the **Installation or Configuration Program** column.

2. On the machine where Content Engine is to be deployed, log on as *ce_install_user*.
3. Locate the Process Engine Client installation software. The version of the Process Engine Client software must match the version of Process Engine software.
4. Expand the TAR or ZIP file of the Process Engine Client installation software.
5. In the expanded installation software, open the file `PEClient_silent_install.txt` and make the following changes:
   a. Change the `Variable_CheckboxCE` line to:
      ```
      -V Variable_CheckboxCE="true"
      ```
   b. Save your changes.
6. Start the installation program by running the following command:

Operating System	Install Program
Windows	`P8PE-CLIENT-`*`PE_version`*`0-WIN.EXE -silent -options "PEClient_silent_install.txt"`

7. If the Process Engine is configured to use the IPv6 network protocol, locate and edit the taskman.properties file and add the following lines to that file:
   ```
   -Djava.net.preferIPv6Addresses=true
   -Djava.net.preferIPv4Stack=false
   ```

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Configuring Content Engine

You can configure and deploy all of your Content Engine instances with Configuration Manager. Configuration Manager prepares the Content Engine application for deployment on the application server. A single Content Engine application instance equates to one deployed application on your application server.

Configuration is a multiple step process. You must provide information about your Content Engine application environment, then you apply the settings by running the configuration tasks, and then you deploy the application. You can configure multiple instances before you deploy any of them, or you can configure and deploy one instance at a time.

You use Configuration Manager to define the following information for the Content Engine instance:
- Application server properties
- Java Database Connectivity (JDBC) data source properties for the Global Configuration Data (GCD) database
- Java Database Connectivity (JDBC) data source properties for each object store database
- Directory service (LDAP) provider properties
- Content Engine application login modules
- Content Engine bootstrap properties

Remember the following points when you prepare to configure Content Engine:

- If you need an accessible software version of Configuration Manager for people with disabilities, use the command-line version of Configuration Manager.
- If your FileNet P8 domain uses multiple non-managed application servers, then you use a copy of a single EAR file with the bootstrap settings on all the servers. After you complete the tasks on the initial server, you copy the EAR file with the bootstrap settings to the additional servers.

1. "Resolving the names of existing data sources"
   You must create data sources for the Global Configuration Data (GCD) database and your object store databases. Configuration Manager will not create a new data source with the same name as that of an existing data source. If you want to reuse a data source name, you must resolve data source naming conflicts before you configure the JDBC data sources.
2. "Granting directory permissions to the Configuration Manager user"
   You must grant file and directory permissions to *config_mgr_user*, which is the user who runs Configuration Manager, to allow this user to run the program and create files in the `ce_install_path/tools/configure` directory.
3. "Configuring Content Engine instances" on page 20
   You can configure and deploy all of your Content Engine instances with Configuration Manager. A single Content Engine application instance equates to one deployed application on your application server. You can use the graphical user interface or the command-line interface for Configuration Manager.

Resolving the names of existing data sources

You must create data sources for the Global Configuration Data (GCD) database and your object store databases. Configuration Manager will not create a new data source with the same name as that of an existing data source. If you want to reuse a data source name, you must resolve data source naming conflicts before you configure the JDBC data sources.

Perform this procedure only if you already created data source names by using your application server administration tools and you want to use Configuration Manager to create the data sources.

To resolve data source name reuse issues:

1. Use your application server administration tools to determine if the data source names that you selected already exist.
2. If you have a duplicate data source name that you want to use, manually delete the existing data source from your application server. See your application server documentation for more information.

Granting directory permissions to the Configuration Manager user

You must grant file and directory permissions to *config_mgr_user*, which is the user who runs Configuration Manager, to allow this user to run the program and create files in the `ce_install_path/tools/configure` directory.

To grant permissions to the Configuration Manager user:

1. Log on as *ce_install_user* to the server where you installed Content Engine.
2. Grant permissions to the *config_mgr_user* user for the executable file that you intend to use:

Option	Description
Windows - graphical user interface	Grant read and execute permission to `configmgr.exe`
Windows - command line	Grant read and execute permission to `configmgr_cl.exe`

3. Grant write permission to the directory where you want Configuration Manager to place the configuration XML files that it creates.

   If you do not specify the profile directory when you run Configuration Manager, grant write permission on the default directory *ce_install_path*/`tools/configure` and all its files and subdirectories.
4. Log off the Content Engine server and log on again as *config_mgr_user*.

Related tasks

IBM FileNet P8 accounts
See the P8 account information for details on how to specify the required accounts and their permissions in the *Plan and Prepare Your Environment for IBM FileNet P8*.

Configuring Content Engine instances

You can configure and deploy all of your Content Engine instances with Configuration Manager. A single Content Engine application instance equates to one deployed application on your application server. You can use the graphical user interface or the command-line interface for Configuration Manager.

Remember the following points when you prepare to configure Content Engine:

- If you need an accessible software version of Configuration Manager for people with disabilities, use the command-line version of Configuration Manager.
- If your FileNet P8 domain uses multiple non-managed application servers, then you use a copy of a single EAR file with the bootstrap settings on all the servers. After you complete the tasks on the initial server, you copy the EAR file with the bootstrap settings to the additional servers.

Ensure that the application server is running or stopped, depending on its type:

Option	Description
WebSphere Application Server	Start the application server if it is not already running.
JBoss Application Server	Stop the application server.
WebLogic Server	Start the application server if it is not already running.

"Configuring Content Engine instances by using the graphical user interface" on page 21
You use the graphical user interface version of Configuration Manager to configure and deploy a Content Engine application instance on an application server.

"Configuring instances by using the command line" on page 27
You can configure a Content Engine instance on a web application server by using the command-line version of Configuration Manager.

Configuring Content Engine instances by using the graphical user interface

You use the graphical user interface version of Configuration Manager to configure and deploy a Content Engine application instance on an application server.

First, you create a configuration profile that defines:

- The JDBC data source settings
- The login modules for the Content Engine application
- The directory service provider (LDAP) settings
- The Content Engine bootstrap settings

You can follow the recommended order to edit and run the individual configuration tasks. However, you can edit and run the Configure GCD JDBC Data Sources, Configure Login Modules, Configure LDAP properties, and Configure Bootstrap tasks in any order. You do not need to complete work on one configuration task before starting another. You can save your edits, switch between tasks, close the tasks, and reopen tasks as needed. However, you must complete all of these tasks before you deploy the application.

1. "Starting the Configuration Manager graphical user interface"
   You can start the graphical interface version of Configuration Manager to configure a Content Engine application instance on a web application server.
2. "Changing the password save preference" on page 22
   By default, any passwords that you enter in the graphical user interface in Configuration Manager are not saved to a file. The passwords are stored in memory as long as you have the profile open in Configuration Manager. You can change the password save preference to save the passwords each time that you save your changes to a profile.
3. "Creating a new configuration profile" on page 22
   Configuration Manager stores your settings for deploying a Content Engine application instance in a configuration profile. The profile defines the application server settings, the JDBC data source settings, the login modules settings, the directory service provider (LDAP) settings, the Content Engine bootstrap settings, and the application deployment settings. You must create a new profile for each Content Engine instance that you are configuring.
4. "Configuring the Global Configuration Data JDBC data source settings" on page 23
   You must provide property information about the JDBC data sources for the Global Configuration Data (GCD) database. Content Engine uses the data source information to connect to and update the GCD database.
5. "Configuring the directory service provider (LDAP) settings" on page 24
   You must configure the directory service provider (LDAP) settings. The directory service provider (LDAP) settings define the directory service and the users and groups that Content Engine uses for authentication.
6. "Configuring the bootstrap settings" on page 26
   You must configure the bootstrap settings. The bootstrap information is needed for creating the Global Configuration Data (GCD) and for starting Content Engine.

Starting the Configuration Manager graphical user interface:

You can start the graphical interface version of Configuration Manager to configure a Content Engine application instance on a web application server.

To start Configuration Manager:

1. Start Configuration Manager by running one of the following commands, depending on the operating system that runs on the machine where you installed Content Engine:

Option	Description
Windows	Perform one of the following actions: • Double-click the **FileNet Configuration Manager** desktop shortcut. • Click **Start** → **All Programs** → **IBM FileNet P8 Platform** → **FileNet Configuration Manager**. • Run the following command: `ce_install_path\tools\configure\configmgr.exe`

   The first time that you start Configuration Manager, the Welcome is displayed.

2. Select one of the links in the Welcome to learn more or to start working in a wizard, or close the Welcome by clicking the **X** in the tab at the upper left. You can reopen the Welcome later, as needed, from the **Help** menu.

Changing the password save preference:

By default, any passwords that you enter in the graphical user interface in Configuration Manager are not saved to a file. The passwords are stored in memory as long as you have the profile open in Configuration Manager. You can change the password save preference to save the passwords each time that you save your changes to a profile.

When you close the profile, the passwords are erased from memory. Each time that you start Configuration Manager or open a saved profile, you must specify any passwords required by the tasks and for the application server properties before you run the tasks; otherwise, the tasks won't run successfully. If your site security requirements permit you to save passwords to a file, you can change the password save preference setting.

To change the password save preference:

1. Click **Window** → **Preferences**.
2. Complete one of the following actions:

Option	Description
To save passwords to file	Select the **Save all passwords to file when saving a task or profile** check box.
To prevent writing passwords to file	Clear the **Save all passwords to file when saving a task or profile** check box.

3. Click **OK**.

Creating a new configuration profile:

Configuration Manager stores your settings for deploying a Content Engine application instance in a configuration profile. The profile defines the application server settings, the JDBC data source settings, the login modules settings, the directory service provider (LDAP) settings, the Content Engine bootstrap settings, and the application deployment settings. You must create a new profile for each Content Engine instance that you are configuring.

The information for a profile is collected in XML files in the form of properties and values that describe the associated configuration and deployment tasks. You must provide values for the profile properties that are specific to each configuration at your site, such as the application server name. The XML files are stored in a directory that is unique to a given profile. Because the profile name is used for the directory name and for the configuration profile file name, you must provide a profile name that is a valid directory name for your operating system. By default, the profiles are stored in the `ce_install_path/tools/configure/profiles` directory, where *ce_install_path* is the location where Content Engine is installed. For more information on profiles, see "Configuration profile concepts" on page 170.

Tip: For more information on the properties and values that you set in Configuration Manager, roll your mouse over the property name to view the tool tip help for the property.

To create a configuration profile:

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Configuration Manager values, filter by **CM: Create New Installation Profile** in the **Installation or Configuration Program** column.
2. Start the Create New Installation Profile wizard by selecting **File** → **New Installation Profile**.
3. Complete the wizard screens by using the values in your worksheet.
4. Optional: WebSphere Application Server and Oracle WebLogic Server only. In the Set Properties for Application Server screen, click **Test Connection** to test the connection between Configuration Manager and the application server by using the information that you provided. The test is optional, and you can proceed in the wizard even if the test fails. If the test fails, make sure that the application server is running and that the application server property values that you entered match the values that are defined in your application server.

The profile you created is displayed as an icon in the profile pane (left pane), along with icons for the tasks you selected. By default, the **Deploy Application** task is disabled. You must enable the task later in the configuration process.

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Related tasks

"Configuration Manager user interface reference" on page 174
The Configuration Manager graphical user interface (GUI) lets you create, view, and edit your Content Engine configuration profile. You can also make a copy of an existing profile, run configuration tasks, view the session logs, and check the status of a particular task.

Configuring the Global Configuration Data JDBC data source settings:

You must provide property information about the JDBC data sources for the Global Configuration Data (GCD) database. Content Engine uses the data source information to connect to and update the GCD database.

Ensure that the application server is running or stopped, depending on its type:

Table 3. Required application server state

Option	Description
WebLogic Server	Start the application server if it is not already running.

To configure the JDBC settings:

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Configuration Manager values, filter by **CM: Configure GCD JDBC Data Sources** in the **Installation or Configuration Program** column.
2. If your configuration profile is not open in Configuration Manager, open the profile.
3. Right-click **Configure GCD JDBC Data Sources** in the profile pane and select **Edit Selected Task**.
4. Enter the property values for your database by using the values in your worksheet.
5. Optional: (WebSphere and WebLogic only) Click **Test Database Connection** to test the connection to the database by using the database user name, database server name, database name, port number, and password that you provided. The test does not create the data sources.
6. Select **File** → **Save** to save your changes.
7. Ensure that the task is enabled. When the task is disabled, the task name includes the text **(disabled)**. To enable the task, select **Configure GCD JDBC Data Sources (disabled)** in the profile pane, and then either right-click and choose **Enable Selected Task** from the context menu, or click the **Enable the Selected Task** icon in the task toolbar.
8. Apply the JDBC property settings by right-clicking **Configure GCD JDBC Data Sources** in the profile pane, and selecting **Run Task**. Running the configuration task can take several minutes. The task execution status messages are displayed in the console pane below the JDBC properties.
9. Close the Configure GCD JDBC Data Sources task pane. In this step, you created the GCD data sources. You create the initial object store data sources later in the configuration process.

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Related tasks

"Configuration Manager user interface reference" on page 174
The Configuration Manager graphical user interface (GUI) lets you create, view, and edit your Content Engine configuration profile. You can also make a copy of an existing profile, run configuration tasks, view the session logs, and check the status of a particular task.

Configuring the directory service provider (LDAP) settings:

You must configure the directory service provider (LDAP) settings. The directory service provider (LDAP) settings define the directory service and the users and groups that Content Engine uses for authentication.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

If you plan to configure Content Engine to use the directory server's e-mail attribute or, for Active Directory, the userPrincipalName (UPN) to be the user short name used for login, then you must perform additional configuration steps and enter specific values for your LDAP settings. For detailed steps, see the IBM FileNet P8 help topic **System Administration** → **Enterprise-wide Administration** → **FileNet P8 Security** → **How to...** → **Configuration Content Engine to use e-mail or UPN for login**.

To configure the LDAP settings:

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Configuration Manager values, filter by **CM: Configure LDAP** in the **Installation or Configuration Program** column.
2. If your configuration profile is not open in Configuration Manager, open the profile.
3. Enter property values for the LDAP provider:
   a. Right-click **Configure LDAP** in the profile pane, and select **Edit Selected Task**.
   b. Enter the property values for your LDAP provider, by referring to the values from your worksheet.
4. Optional: (WebSphere and WebLogic only) Click **Test LDAP Connection** to test the connection to the directory service provider by using the directory service bind user name, host name, port number, and password that you provided.
5. Click **File** → **Save** to save your changes.
6. Ensure that the task is enabled. When the task is disabled, the task name includes the text **(disabled)**. To enable the task, select **Configure LDAP (disabled)** in the profile pane, and then either right-click and choose **Enable Selected Task** from the context menu, or click the **Enable the Selected Task** icon in the task toolbar.
7. Apply the LDAP property settings by right-clicking **Configure LDAP** in the profile pane and selecting **Run Task**. Running the configuration task can take several minutes. The task execution status messages are displayed in the console pane below the LDAP properties.
8. Close the Configure LDAP task pane.

Oracle WebLogic Server only. When you run the **Configure LDAP** task, the `weblogic.security.providers.authentication.DefaultAuthenticator.ControlFlag` value is set to SUFFICIENT for authenticating users.

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Related tasks

"Configuration Manager user interface reference" on page 174
The Configuration Manager graphical user interface (GUI) lets you create, view, and edit your Content Engine configuration profile. You can also make a copy of an existing profile, run configuration tasks, view the session logs, and check the status of a particular task.

Configuring the bootstrap settings:

You must configure the bootstrap settings. The bootstrap information is needed for creating the Global Configuration Data (GCD) and for starting Content Engine.

Be sure that you have available the Installation and Upgrade Worksheet that was filled out during your planning activities.

If you plan to configure Content Engine to use the directory server's e-mail attribute or, for Active Directory, the userPrincipalName (UPN) to be the user short name that is used for login, then you must perform additional configuration steps and enter specific values for your bootstrap settings. For detailed steps, see the IBM FileNet P8 help topic **System Administration** → **Enterprise-wide Administration** → **FileNet P8 Security** → **How to...** → **Configuration Content Engine to use e-mail or UPN for login**.

If your FileNet P8 domain uses multiple non-managed application servers, then complete this procedure only on the initial server. You use a copy of the same EAR file with the bootstrap settings on all the servers.

To edit the bootstrap settings:

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Configuration Manager values, filter by **CM: Configure bootstrap properties** in the **Installation or Configuration Program** column.
2. If your configuration profile is not open in Configuration Manager, open the profile.
3. Right-click **Configure Bootstrap Properties** in the profile pane and select **Edit Selected Task**.
4. In the **Bootstrap operation** field, select **Configure New**.
5. Enter the property values for your database by using the values in your worksheet.
6. Click **File** → **Save** to save your changes.
7. Ensure that the task is enabled. When the task is disabled, the task name includes the text **(disabled)**. To enable the task, select **Configure Bootstrap Properties (disabled)** in the profile pane, and then either right-click and choose **Enable Selected Task** from the context menu, or click the **Enable the Selected Task** icon in the task toolbar.
8. Apply the bootstrap property settings by right-clicking **Configure bootstrap properties** in the profile pane, and select **Run Task**. Running the configuration

task can take a few minutes. The task execution status messages are displayed in the console pane below the bootstrap properties.

9. Optional: Click **View Bootstrapped EAR Information** to display the bootstrap information from the modified EAR file.
10. Close the Configure Bootstrap Properties task pane.
11. If your FileNet P8 domain uses multiple non-managed application servers, then copy the `*ce_install_path*/ContentEngine/tools/configure/profiles/*my_profile*/ear/*Engine-app_server_type.ear*` file to each additional Content Engine server.

    install_dir
    : The location where Content Engine is installed.

    my_profile
    : The directory for the Configuration Manager profile that you created.

    Engine-app_server_type.ear
    : The EAR file for your application server type: `Engine-ws.ear`, `Engine-wl.ear`, or `Engine-jb.ear`.

    Important: Only run the **Configure bootstrap properties** task on the initial server.

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Related tasks

"Configuration Manager user interface reference" on page 174
The Configuration Manager graphical user interface (GUI) lets you create, view, and edit your Content Engine configuration profile. You can also make a copy of an existing profile, run configuration tasks, view the session logs, and check the status of a particular task.

Configuring instances by using the command line

You can configure a Content Engine instance on a web application server by using the command-line version of Configuration Manager.

Begin by generating the configuration XML files that define the application server settings, the Global Configuration Data (GCD) data source JDBC data source settings, the login modules for the Content Engine application, the directory service provider (LDAP) settings, and the Content Engine bootstrap settings. Next, edit the files to provide values for your environment. Then, apply the settings by executing the tasks from a command prompt.

You must generate, edit, and run a complete set of configuration XML to configure a Content Engine application. If you are deploying multiple Content Engine application instances on the same application server, you must generate, edit, and deploy a complete set of configuration files for each instance. Store the configuration files for each instance in a separate directory.

You can complete the configuration tasks by generating all the configuration XML files before editing, running, or verifying any of them; or you can generate, edit, run, and verify one file at a time.

1. "Generating the configuration XML files for a Content Engine instance" on page 28

The configuration XML files contain the properties and values for the various configuration tasks. From the command line, you can generate all of the XML files at the same time, or you can generate a single configuration XML file at a time.

2. "Editing the configuration XML files for a Content Engine instance" on page 32
   You must edit each configuration XML file to provide the property values for your environment. You can use any text editor to open and edit the files.
3. "Running the configuration XML files" on page 35
   Running the configuration XML files applies the settings. You use the **execute** command to apply your configuration settings from the command line.
4. "Checking the completion status of Content Engine configuration tasks" on page 39
   Task execution messages are displayed in the console when you run a task, and you can view the status of a specific task at any time by running the **checkStatus** command. From the command line, you can check the status of all the configuration tasks or check the status of a single task.

Generating the configuration XML files for a Content Engine instance:

The configuration XML files contain the properties and values for the various configuration tasks. From the command line, you can generate all of the XML files at the same time, or you can generate a single configuration XML file at a time.

The following table lists the configuration XML files that you need to generate to configure a new Content Engine instance.

Table 4. Configuration XML files

File Name	Description
`applicationserver.xml`	Settings for the application server, including the location of the application server software and the name of the server. This file is generated when any other configuration file is generated (either all at the same time or individually) and is used by all of the configuration tasks. If you generate the files one at a time, this file is created only once.
`configurebootstrap.xml`	Settings for creating the Global Configuration Data (GCD) and starting Content Engine.

`configurejdbcgcd.xml`
 	
`configurejdbcgos.xml`
 	
`configurejdbcos.`*n*`.xml` , where *n* is an integer starting with 2
	Settings for configuring JDBC connections to the databases used by Content Engine. You must generate, edit, and run the configure the JDBC task once for the data sources for the Global Configuration Data (GCD) and then again for the data sources for each object store. For information about creating the additional data sources for the object store, see "Creating the data sources by using the command line" on page 57.
	
	If you generate a second JDBC configuration file, then it is named `configurejdbc.2.xml`. The file name increments for each new file that you generate.

Table 4. Configuration XML files (continued)

File Name	Description
configureldap.xml configureldap.*n*.xml , where *n* is an integer starting with 2	Settings for connecting to and searching within a directory server. If your site uses multiple LDAP providers, you can generate an additional file for each provider. If you generate a second LDAP configuration file, then it is named configureldap.2.xml. The file name increments for each new file that you generate.
configureloginmodules.xml	Settings for creating the application server login modules for Content Engine.

You must eventually generate each of the required configuration XML files to configure a Content Engine instance.

"Generating all of the configuration XML files at the same time"
From the command line, you can generate all of the required configuration XML files for Content Engine at the same time with a single command.

"Generating one configuration XML file at a time (WebLogic or JBoss)" on page 31
From the command line, you can generate each of the required configuration XML files for Content Engine one file at a time.

Generating all of the configuration XML files at the same time:

From the command line, you can generate all of the required configuration XML files for Content Engine at the same time with a single command.

When you run the **generateconfig** command, all the required configuration XML files are created.

To generate all the configuration XML files at the same time:

1. Log on to the application server as *config_mgr_user*, the user who runs Configuration Manager.
2. Change the current directory to *ce_install_path*/tools/configure, where *ce_install_path* is the location where the Content Engine software is installed.
3. Run the following command. Do not type any line breaks when you enter the command.

   Oracle WebLogic Server or JBoss Application Server
   ```
   configmgr_cl generateconfig -appserver app_server_type
    -db db_type -ldap ldap_type
    -bootstrap bootstrap_operation
    -deploy deploy_type -profile myprofile
   ```
   Where:

   -appserver *appserver_name*
   The **-appserver** *appserver_type* parameter specifies the type of application server and must be WebSphere, WebLogic, or JBoss.

   -db *database_type*
   The **-db** *database_type* parameter is required only when you are generating all the files at the same time or when you are generating a single file by using the configurejdbcgcd or configurejdbcos option. This parameter

specifies the type of database to be used by Content Engine and must be `mssql`, `oracle`, `oracle_rac`, `db2`, or `db2zos`.

-ldap *ldap_type*
The **-ldap** *ldap_type* parameter is required only when you are generating all the files at the same time or when you are generating a single file by using the `configureldap` option. This parameter specifies the type of directory service repository that Content Engine uses for authenticating users and must be `activedirectory`, `adam`, `edirectory`, `oid`, `sunjava`, or `tivoli`. The `adam` value applies to both Microsoft ADAM and AD LDS.

-bootstrap *bootstrap_operation*
The **-bootstrap** *bootstrap_operation* parameter is required only when you are generating all the files at the same time or when you are generating a single file by using the `configurebootstrap` option. This parameter specifies the bootstrap operation for the profile and must be `new`, `modify`, or `upgrade`.

-deploy *deploy_type*
The **-deploy** *deploy_type* parameter is required only when you are generating all the files at the same time or when you are generating a single file by using the `deployapplication` option. This parameter specifies the type of Content Engine deployment. The value must be `standard`, `cluster`, or `netdeploy` (network deployment).

Specify `standard` if you are deploying Content Engine to a stand-alone (that is, a server that is neither managed nor clustered) WebSphere Application Server, Oracle WebLogic Server, or JBoss Application Server.

Specify `cluster` if you are deploying Content Engine to a WebSphere Application Server, Oracle WebLogic Server, or JBoss Application Server cluster.

-profile *myprofile*
The **-profile** *myprofile* parameter specifies the profile to use. The *myprofile* value can be one of the following items:

- The name of the profile, such as ce_was_tiv_db2. The profile must be located in the *ce_install_path*`/tools/configure/profiles` directory, where *ce_install_path* is the location where the Content Engine software is installed.
- The absolute path to the profile directory, such as `"C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2"` or `opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2`.
- The fully qualified path to the profile input file, such as `"C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg"` or `opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2/ce_was_tiv_db2.cfg`.

Remember: If the path includes a directory name with spaces, enclose the entire path in quotation marks. For example, enter `"C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg"`.

For example, the following command generates all the configuration XML files for a new installation profile for a standard deployment on WebSphere with IBM Tivoli Directory Server that uses a stand-alone LDAP repository and DB2 in the *ce_install_path*`/tools/configure/profiles/wstdb2` directory:

```
configmgr_cl generateconfig -appserver WebSphere
 -repositorytype standalone -db db2 -ldap tivoli
 -bootstrap new -deploy standard -profile wstdb2
```

Generating one configuration XML file at a time (WebLogic or JBoss):

From the command line, you can generate each of the required configuration XML files for Content Engine one file at a time.

You must generate the configuration XML files for each of these required configuration tasks:
- Create the XML file for the bootstrap properties file by using the `configurebootstrap` option.
- Create the XML file for configuring the JDBC Data Sources for the Global Configuration Data (GCD) database by using the `configurejdbcgcd` option.
- Create the XML file for configuring the JDBC Data Sources for a single object store database by using the `configurejdbcos` option.
- Create the XML file for configuring the LDAP provider by using the `configureldap` option.

To generate a single configuration XML file:
1. Log on to the application server as *config_mgr_user*, which is the user who will run Configuration Manager.
2. Change the current directory to *ce_install_path*/tools/configure.
3. Run the appropriate command for the task you need. Do not type any line breaks when you enter the command.

   Oracle WebLogic Server or JBoss Application Server only. Generate the `configurebootstrap.xml` file for the `configurebootstrap` task:
   ```
   configmgr_cl generateconfig -appserver app_server_type
    -task configurebootstrap -bootstrap bootstrap_operation
    -profile myprofile
   ```

   Generate the `configurejdbcgcd.xml` file for the `configurejdbcgcd` task for the GCD data sources:
   ```
   configmgr_cl generateconfig -appserver app_server_type
    -db db_type -task configurejdbcgcd -profile myprofile
   ```

   Generate the `configurejdbcos.n.xml` file for the `configurejdbcgos` task for the data sources for a single object store:
   ```
   configmgr_cl generateconfig -appserver app_server_type
    -db db_type -task configurejdbcos -profile myprofile
   ```

   Generate the `configureldap.xml` file for the `configureldap` task:
   ```
   configmgr_cl generateconfig -appserver app_server_type
    -ldap ldap_type -task configureldap -profile myprofile
   ```

   where:

   -appserver *appserver_name*
      -appserver *appserver_type* specifies the type of application server and must be `WebSphere`, `WebLogic`, or `JBoss`.

   -db *database_type*
      The **-db** *database_type* parameter is required only when you are generating files by using the `configurejdbcgcd` or `configurejdbcos` option. This parameter specifies the type of database to be used by Content Engine and must be `mssql`, `oracle`, `oracle_rac`, `db2`, or `db2zos`.

-ldap *ldap_type*
The **-ldap** *ldap_type* parameter is required only when you are generating all the files at the same time or when you are generating a single file by using the `configureldap` option. This parameter specifies the type of directory service repository that Content Engine uses for authenticating users and must be `activedirectory`, `adam`, `edirectory`, `oid`, `sunjava`, or `tivoli`. The `adam` value applies to both Microsoft ADAM and AD LDS.

-bootstrap *bootstrap_operation*
The **-bootstrap** *bootstrap_operation* parameter is required only when you are generating all the files at the same time or when you are generating a single file by using the `configurebootstrap` option. This parameter specifies the bootstrap operation for the profile and must be `new`, `modify`, or `upgrade`.

-profile *myprofile*
The **-profile** *myprofile* parameter specifies the profile to use. Use one of the following values for *myprofile*:

- The name of the profile, such as ce_was_tiv_db2. The profile must be located in the *ce_install_path*`/tools/configure/profiles` directory, where *ce_install_path* is the location where the Content Engine software is installed.
- The absolute path to the profile directory, such as `"C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2"` or `opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2`.
- The absolute path to the profile input file, such as `"C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg"` or `opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2/ce_was_tiv_db2.cfg`.

Remember: If the path includes a directory name with spaces, enclose the entire path in quotation marks. For example, enter `"C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg"`.

4. Repeat as needed to generate all the required XML configuration files.

Editing the configuration XML files for a Content Engine instance:

You must edit each configuration XML file to provide the property values for your environment. You can use any text editor to open and edit the files.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

If you plan to configure Content Engine to use the directory server's e-mail attribute or, for Active Directory, the userPrincipalName (UPN) to be the user short name that is used for login, then you must perform additional configuration steps and enter specific values for your LDAP and bootstrap settings. For detailed steps, see the IBM FileNet P8 help topic **System Administration → Enterprise-wide Administration → FileNet P8 Security → How to... → Configuration Content Engine to use e-mail or UPN for login**.

To edit values in the configuration XML files:

1. Open your completed Installation and Upgrade Worksheet file.

Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Configuration Manager values, in the **Installation or Configuration Program** column filter by each of the following items, depending on which XML file you are editing:

- **CM: Set Application Server properties**
- **CM: Configure GCD JDBC Data Sources**
- **CM: Configure LDAP**
- **CM: Configure Bootstrap Properties**

2. Use a text editor or XML editor to open one of the following configuration XML files that you generated:
   - `applicationserver.xml`
   - `configurejdbcgcd.xml` for the Global Configuration Data (GCD)
   - `configureldap.xml`
   - `configurebootstrap.xml`

   Do not edit the `configureloginmodules.xml`, `configurejdbcos.xml`, or `deployapplication.xml` files at this time.
3. Make the following changes to each XML configuration file:
   a. Replace each occurrence of `****INSERT VALUE****` with a value appropriate for your site. See the descriptions in the file for more information.

      Important: You do not need to supply values for passwords. You can run the **storepasswords** command later to add encrypted passwords to the file.
   b. Verify that the default values for the remaining properties are correct for your site.
   c. Set the **enabled** attribute value in the <configuration> tag to `true` in any configuration XML file you edit if you want to run the configuration task.
4. Save your edits and close the XML file.
5. Optional: Add encrypted passwords to the XML files by running the **storepasswords** command.
   a. Enter the following command on one line:

```
configmgr_cl storepasswords [-task task_type | -taskfile task_file_name]
 -profile myprofile
```

   where:

   -task *task_type*
      The **-task** *task_type* parameter is optional and specifies a task for which to encrypt passwords. The *task_type* value is not case sensitive. The following table lists each valid task name, its associated configuration XML file, and a description of the Content Engine settings affected by the task.

Table 5. task_type values

Task	Configuration file	Description

omitted	`applicationserver.xml`
	`configurebootstrap.xml`
	`configurejdbc.xml`
	`configureldap.xml`
	`deployapplication.xml`
		When you omit the `-task` *`task_type`* parameter, you are prompted to enter the passwords for each configuration XML file in the profile. Each password is encrypted before it is added to the XML file.

Table 5. task_type values (continued)

Task	Configuration file	Description
configurebootstrap	configurebootstrap.xml	Encrypts the password for the BootstrapPassword property that is used to create the Global Configuration Data and to start Content Engine.
configurejdbcgcd	configurejdbcgcd.xml	Encrypts the password for the DatabasePassword property that Content Engine uses to access the GCD database.
configurejdbcos	configurejdbcos.xml configurejdbcos.*n*.xml, where *n* is an integer starting with 2	Encrypts the password for the DatabasePassword property that Content Engine uses to access the object store database. If you have more than one configurejdbcos.*n*.xml file, run the command for each task file.
configureldap	configureldap.xml configureldap.*n*.xml, where *n* is an integer starting with 2	Encrypts the password for the LDAPBindPassword property that Content Engine uses to connect to the directory server for authenticating Content Engine users. If you have more than one configureldap.*n*.xml file, run the command for each task file.

-taskfile *task_file_name*
The **-taskfile** *task_file_name* parameter specifies the configuration XML file to use.

If only one task file exists for the *task_type*, then the **-taskfile** *task_file_name* parameter is optional.

If more than one task file for the *task_type* exists, then you must include the **-taskfile** *task_file_name* parameter. You can omit the **-task** *task_type* parameter when you specify the **-taskfile** *task_file_name* parameter.

-profile *myprofile*
The **-profile** *myprofile* parameter specifies the profile to use. The *myprofile* value can be one of the following items:

- The name of the profile, such as ce_was_tiv_db2. The profile must be located in the *ce_install_path*/tools/configure/profiles directory, where *ce_install_path* is the location where the Content Engine software is installed.
- The absolute path to the profile directory, such as "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2" or opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2.

- The absolute path to the profile input file, such as "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg" or opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2/ce_was_tiv_db2.cfg.

  Remember: If the path includes a directory name with spaces, enclose the entire path in quotation marks. For example, enter "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg".

6. Repeat this procedure as needed until you edit all the required files.

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Running the configuration XML files:

Running the configuration XML files applies the settings. You use the **execute** command to apply your configuration settings from the command line.

If you need to run the configuration XML files for a profile that was created or edited in the Configuration Manager graphical user interface, verify that the XML files contain values for the required passwords before you attempt to run the files. See "Handling passwords in Configuration Manager" on page 173 for more information.

To run the configuration XML files:

1. Start or stop the application server.

Option	Description
Oracle WebLogic Server	Start the application server if it is not already running.

2. Run the configuration XML files, either all at the same time or one file at a time.

   "Running all the configuration XML files at the same time"
   From the command line, you can run all of the required configuration XML files for Content Engine at the same time with a single command. Any configuration XML file that has the <TaskEnbled> element set to false is skipped.

   "Running one configuration XML file at a time" on page 37
   From the command line, you can run each of the required configuration XML files one file at a time. You must run each of the required files to complete the Content Engine configuration.

Running all the configuration XML files at the same time:

From the command line, you can run all of the required configuration XML files for Content Engine at the same time with a single command. Any configuration XML file that has the <TaskEnbled> element set to false is skipped.

If your FileNet P8 domain uses multiple non-managed application servers, then you use a copy of a single EAR file with the bootstrap settings on all the servers.

After you run all the tasks on the initial server, you copy the EAR file with the bootstrap settings to the additional servers. Then, when you run the tasks for the additional servers, do not use this procedure to run all tasks at once on the additional servers. Instead, only run the tasks for configuring the JDBC data sources for the GCD, configuring the JDBC data sources for the object stores, and configuring the LDAP provider.

For all other configurations, you can run all the tasks at once on each Content Engine server.

To run all the configuration XML files at the same time:

1. Change the current directory to *ce_install_path*/tools/configure, where *ce_install_path* is the location where the Content Engine software is installed.
2. Run the following command.

   ```
   configmgr_cl execute -profile myprofile
   ```

   where the **-profile** *myprofile* parameter specifies the profile to use. The *myprofile* value can be one of the following items:

   - The name of the profile, such as ce_was_tiv_db2. The profile must be located in the *ce_install_path*/tools/configure/profiles directory, where *ce_install_path* is the location where the Content Engine software is installed.
   - The absolute path to the profile directory, such as "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2" or opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2.
   - The absolute path to the profile input file, such as "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg" or opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2/ce_was_tiv_db2.cfg.

   Remember: If the path includes a directory name with spaces, enclose the entire path in quotation marks. For example, enter "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg".
3. If your FileNet P8 domain uses multiple non-managed application servers, then copy the *ce_install_path*/ContentEngine/tools/configure/profiles/*my_profile*/ear/*Engine-app_server_type.ear* file to each additional Content Engine server.

   install_dir
   : The location where Content Engine is installed.

   my_profile
   : The directory for the Configuration Manager profile that you created.

   Engine-app_server_type.ear
   : The EAR file for your application server type: Engine-ws.ear, Engine-wl.ear, or Engine-jb.ear.

   Important: For each additional non-managed server, only run the tasks for configuring the JDBC data sources for the GCD, configuring the JDBC data sources for the object stores, and configuring the LDAP provider.

The task execution status messages are displayed.

Oracle WebLogic Server only. When you run all the tasks, the `weblogic.security.providers.authentication.DefaultAuthenticator.ControlFlag` value is set to SUFFICIENT for authenticating users.

Running one configuration XML file at a time:

From the command line, you can run each of the required configuration XML files one file at a time. You must run each of the required files to complete the Content Engine configuration.

If you are running tasks for a profile that was created or edited in the Configuration Manager graphical user interface, verify that the XML files contain values for the required passwords before you attempt to run the configuration XML files. See "Handling passwords in Configuration Manager" on page 173 for more information.

You must run the configuration XML files for each of the required configuration tasks:

- Apply the bootstrap properties file by using the `configurebootstrap` option.

  If your FileNet P8 domain uses multiple non-managed application servers, then you use a copy of a single EAR file with the bootstrap settings on all the servers. After you apply the bootstrap properties file on the initial server, you copy the EAR file with the bootstrap settings to the additional servers. Then, when you run the tasks for the additional servers, do not use the `configurebootstrap` option. Only run the tasks for configuring the JDBC data sources for the GCD, configuring the JDBC data sources for the object stores, and configuring the LDAP provider.

  For all other configurations, you can run all the tasks on each Content Engine server.
- Configure the JDBC Data Sources for the Global Configuration Data (GCD) database by using the `configurejdbcgcd` option.
- Configure the JDBC Data Sources for a single object store database by using the `configurejdbcos` option.
- Configure the LDAP provider by using the `configureldap` option.

  Oracle WebLogic Server only. When you run the task using the `configureldap` option, the

  ```
  weblogic.security.providers.authentication.DefaultAuthenticator.ControlFlag
  ```

  value is set to SUFFICIENT for authenticating users.
- Configure the login modules by using the `configureloginmodules` option.

To run the configuration XML files one file at a time:

1. Change the current directory to *ce_install_path*/tools/configure, where *ce_install_path* is the location where Content Engine is installed.
2. Run the appropriate command for the task you need to complete. Do not type any line breaks when you enter the command.

   Run the configurejdbcos.xml file in a profile with one configurejdbcos task:

   ```
   configmgr_cl execute -task configurejdbcos -profile myprofile
   ```

   Run the configurejdbc.2.xml file in a profile with multiple configurejdbcos tasks:

   ```
   configmgr_cl execute -taskfile task_file_name
   configurejdbc.2.xml -profile myprofile
   ```

Run the `configureldap.xml` file in a profile with one `configureldap` task:

```
configmgr_cl execute -task configureldap -profile myprofile
```

Run the `configureldap.3.xml` file in a profile with multiple `configureldap` tasks:

```
configmgr_cl execute -taskfile configureldap.3.xml -profile myprofile
```

Run the `configureloginmodules.xml` file:

```
configmgr_cl execute -task configureloginmodules -profile myprofile
```

Run the `configurebootstrap.xml` file in a profile with one `configurebootstrap` task:

```
configmgr_cl execute -task configurebootstrap -profile myprofile
```

Where:

-taskfile *task_file_name*

The **-taskfile** *task_file_name* parameter specifies the configuration XML file to use.

If only one task file exists for the *task_type*, then the **-taskfile** *task_file_name* parameter is optional, but do not use the **-task** *task_type* parameter with the **-taskfile** *task_file_name* parameter.

If more than one task file for the *task_type* exists, then you must include the **-taskfile** *task_file_name* parameter. You can omit the **-task** *task_type* parameter when you specify the **-taskfile** *task_file_name* parameter.

-profile *myprofile*

The **-profile** *myprofile* parameter specifies the profile to use. The *myprofile* value can be one of the following items:

- The name of the profile, such as ce_was_tiv_db2. The profile must be located in the *`ce_install_path`*`/tools/configure/profiles` directory, where *ce_install_path* is the location where the Content Engine software is installed.
- The absolute path to the profile directory, such as `"C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2"` or `opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2`.
- The fully qualified path to the profile input file, such as `"C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg"` or `opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2/ce_was_tiv_db2.cfg`.

Remember: If the path includes a directory name with spaces, enclose the entire path in quotation marks. For example, enter `"C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg"`.

Remember: The values that you entered for the `configurejdbcgcd` task were for the Global Configuration Data (GCD) data sources. You must edit and run the `configurejdbcos` task once for each object store later in the installation process.

3. If your FileNet P8 domain uses multiple non-managed application servers, then copy the *`ce_install_path`*`/ContentEngine/tools/configure/profiles/`*`my_profile`*`/ear/`*`Engine-app_server_type.ear`* file to each additional Content Engine server.

install_dir
The location where Content Engine is installed.

my_profile
The directory for the Configuration Manager profile that you created.

Engine-app_server_type.ear
The EAR file for your application server type: `Engine-ws.ear`, `Engine-wl.ear`, or `Engine-jb.ear`.

Important: For each additional non-managed server, only run the tasks for configuring the JDBC data sources for the GCD, configuring the JDBC data sources for the object stores, and configuring the LDAP provider. When you run the tasks for the additional servers, do not use the `configurebootstrap` option on the additional servers.

4. Repeat this procedure as needed to run one of the other configuration XML files until you run the files for each of the four required tasks on this server.

The task execution status messages are displayed.

Checking the completion status of Content Engine configuration tasks:

Task execution messages are displayed in the console when you run a task, and you can view the status of a specific task at any time by running the **checkStatus** command. From the command line, you can check the status of all the configuration tasks or check the status of a single task.

The following table lists the status results and their descriptions.

Table 6. checkstatus command results

Status Result	Description
COMPLETED	The task ran successfully.
INCOMPLETE	The task is incomplete.
NO STATUS AVAILABLE	The task has not been run.
FAILED	The task failed to complete. Additional information about the failure is displayed.

"Checking the completion status of all configuration tasks at once"
From the command line you can check the status of all the configuration tasks with a single command. Checking the completion status does not validate the information in the XML files.

"Checking the completion status of one configuration task at a time" on page 40
From the command line you can check the status of a single task.

Checking the completion status of all configuration tasks at once:

From the command line you can check the status of all the configuration tasks with a single command. Checking the completion status does not validate the information in the XML files.

To check the status of a configuration task:

1. Change the current directory to *`ce_install_path`*`/tools/configure`, where *ce_install_path* is the location where the Content Engine software is installed.
2. Run the following command:

```
configmgr_cl checkstatus -profile myprofile
```

where the **-profile** *myprofile* parameter specifies the profile to use. The *myprofile* value can be one of the following items:

- The name of the profile, such as ce_was_tiv_db2. The profile must be located in the *ce_install_path*/tools/configure/profiles directory, where *ce_install_path* is the location where the Content Engine software is installed.
- The absolute path to the profile directory, such as "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2" or opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2.
- The fully qualified path to the profile input file, such as "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg" or opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2/ce_was_tiv_db2.cfg.

Remember: If the path includes a directory name with spaces, enclose the entire path in quotation marks. For example, enter "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg".

The task execution status messages are displayed.

Checking the completion status of one configuration task at a time:

From the command line you can check the status of a single task.

To check the status of a configuration task:

1. Change the current directory to *ce_install_path*/tools/configure, where *ce_install_path* is the location where the Content Engine software is installed.
2. Run one of the following commands. Do not type any line breaks when you enter the command.
   - To check the status of the configurejdbc.xml file in a profile with one configurejdbcos task:

     ```
     configmgr_cl checkstatus -task configurejdbcos -profile myprofile
     ```
   - To check the status of the configurejdbcos.*n*.xml file in a profile with multiple configurejdbcos tasks:

     ```
     configmgr_cl checkstatus -task configurejdbcos -taskfile task_file_name
      -profile myprofile
     ```
   - To check the status of the configureldap.xml file in a profile with one configureldap task:

     ```
     configmgr_cl checkstatus -task configureldap -profile myprofile
     ```
   - To check the status of the configureLDAP.*n*.xml file in a profile with multiple configureldap tasks:

     ```
     configmgr_cl checkstatus -task configureldap -taskfile task_file_name
      -profile myprofile
     ```
   - To check the status of the configureloginmodules.xml file for the configureloginmodules task:

     ```
     configmgr_cl checkstatus -task configureloginmodules -profile myprofile
     ```
   - To check the status of the configurebootstrap task:

     ```
     configmgr_cl checkstatus -task configurebootstrap -profile myprofile
     ```

   where:

-taskfile *task_file_name*

The **-taskfile** *task_file_name* parameter specifies the configuration XML file to use.

If only one task file exists for the *task_type*, then the **-taskfile** *task_file_name* parameter is optional, but do not use the **-task** *task_type* parameter with the **-taskfile** *task_file_name* parameter.

If more than one task file for the *task_type* exists, then you must include the **-taskfile** *task_file_name* parameter. You can omit the **-task** *task_type* parameter when you specify the **-taskfile***task_file_name* parameter.

-profile *myprofile*

The **-profile** *myprofile* parameter specifies the profile to use. The *myprofile* value can be one of the following items:

- The name of the profile, such as ce_was_tiv_db2. The profile must be located in the `ce_install_path/tools/configure/profiles` directory, where *ce_install_path* is the location where the Content Engine software is installed.
- The absolute path to the profile directory, such as `"C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2"` or `opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2`.
- The absolute path to the profile input file, such as `"C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg"` or `opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2/ce_was_tiv_db2.cfg`.

Remember: If the path includes a directory name with spaces, enclose the entire path in quotation marks. For example, enter `"C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg"`.

3. Repeat 2 on page 40 as needed to check status on one of the other configuration XML files.

The task execution status messages are displayed.

Deploying Content Engine instances

Depending on your environment, you can use the Configuration Manager graphical user interface, or the command line, to deploy Content Engine instances.

Perform the procedures in this topic after you have performed the configuration tasks in "Configuring Content Engine" on page 18 and you have installed the latest version of the Process Engine client files on the Content Engine.

Restriction: Use the command line version of Configuration Manager if either of these conditions is true:

- You need an accessible software version of Configuration Manager for people with disabilities to use.

"Deploying instances by using the graphical user interface" on page 42
You can deploy a Content Engine Server instance on the web application server by using the graphical user interface. Deploying makes the Content Engine application available for use.

"Deploying Content Engine by using the Configuration Manager command line" on page 43
From the command line you can deploy the Content Engine application on the application server.

Deploying instances by using the graphical user interface

You can deploy a Content Engine Server instance on the web application server by using the graphical user interface. Deploying makes the Content Engine application available for use.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

Tip: For more information on the properties and values you set in the Configuration Manager, roll your mouse over the property name to view the hover help for the property.

To deploy Content Engine:

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Configuration Manager deployment values for this task, filter by **CM: Deploy Application** in the **Installation or Configuration Program** column.
2. Log on to the application server machine as *config_mgr_user*, which is the Configuration Manager user.
3. Start Configuration Manager.

Option	Description
Windows	Complete one of the following actions: • Double-click the **FileNet Configuration Manager** desktop shortcut. • Select **Start** → **All Programs** → **IBM FileNet P8 Platform** → **FileNet Configuration Manager**. • Run `ce_install_path\tools\configure\configmgr.exe`. where *ce_install_path* is the location where the Content Engine server software is installed

4. Select **File** → **Open Configuration Profile**.
5. Enter the path to the profile for this Content Engine instance, or click **Browse** to locate the `profilename.cfgp` profile file.
6. Click **OK**.
7. Right-click the **Deploy Application** task in the profile pane (left pane), and select **Edit Selected Task**.
8. Provide the property values for your deployment by using the values in your worksheet.
9. Select **File** → **Save**.
10. Enable the task. When the task is disabled, the task name includes the text **(Disabled)**. To enable the task, select **Deploy Application (Disabled)** in the

profile pane, and then either right-click and choose **Enable Selected Task** from the context menu, or click the **Enable the Selected Task** icon in the task toolbar.

11. Right-click the **Deploy Application** task in the left pane, and select **Run Task** .

    Running the deploy task might take several minutes. The task status messages are displayed in the Console pane below the deploy application properties.

Related concepts

Installation and Upgrade Worksheet
Locate the Installation and Upgrade Worksheet in the IBM FileNet P8 Platform Information Center.

Related tasks

"Configuration Manager user interface reference" on page 174
The Configuration Manager graphical user interface (GUI) lets you create, view, and edit your Content Engine configuration profile. You can also make a copy of an existing profile, run configuration tasks, view the session logs, and check the status of a particular task.

IBM FileNet P8 accounts
See the P8 account information for details on how to specify the required accounts and their permissions in the *Plan and Prepare Your Environment for IBM FileNet P8*.

Deploying Content Engine by using the Configuration Manager command line

From the command line you can deploy the Content Engine application on the application server.

You must generate the `deployapplication.xml` file, edit the file to provide values for your environment, and then execute the deploy task.

If you are deploying multiple Content Engine instances on the same machine, you must generate, edit, and execute a separate `deployapplication.xml` file for each instance. Store the `deployapplication.xml` file for each instance in a separate profile.

Complete the following tasks:

1. "Generating the `deployapplication.xml` file" on page 44
   The `deployapplication.xml` file contains settings for deploying the Content Engine application. You must use the **generateConfig** command to create the XML file.
2. "Editing the deployment configuration files" on page 45
   You must edit the `applicationserver.xml` and `deployapplication.xml` configuration XML files to provide the property values for your environment. You can use any text editor to open and edit the files.
3. "Running the deployapplication.xml file" on page 46
   From the command line, you can run the **execute** command on the `deployapplication.xml` configuration XML file to deploy the Content Engine application on the web application server.
4. "Checking the configuration status of the `deployapplication` task" on page 46
   From the command line you can check the status of a single task, such as the `deployapplication` task. Checking the completion status does not validate the information in the XML files.

Generating the deployapplication.xml file

The deployapplication.xml file contains settings for deploying the Content Engine application. You must use the **generateConfig** command to create the XML file.

The deployapplication.xml file is created when you generate all files at the same time or when you generate the deployapplication task. If you generated all the files at the same time, you already have deployapplication.xml file and you a can skip this procedure.

To generate the deployapplication.xml file:

1. Log on to the application server as *config_mgr_user*, the user who will run Configuration Manager.
2. Change the current directory to *ce_install_path*/tools/configure , where *ce_install_path* is the location where is Content Engine is installed.
3. Enter the following command without line breaks to generate the deployapplication.xml file:

   ```
   configmgr_cl generateconfig -appserver app_server_type -deploy deploy_type
    -task deployapplication -profile myprofile
   ```

   Where:

   -appserver *appserver_name*
      The **-appserver** *appserver_type* specifies the type of application server and must be WebSphere, WebLogic, or JBoss.

   -deploy *deploy_type*
      The **-deploy** *deploy_type* parameter is required only when you are generating all the files at the same time or when you are generating a single file by using the deployapplication option. This parameter specifies the type of Content Engine deployment. The value must be standard, cluster, or netdeploy (network deployment).

      Specify standard if you are deploying Content Engine to a stand-alone (that is, a server that is not managed or clustered) WebSphere Application Server, Oracle WebLogic Server, or JBoss Application Server.

      Specify cluster if you are deploying Content Engine to a WebSphere Application Server, Oracle WebLogic Server, or JBoss Application Server cluster.

   -profile *myprofile*
      The **-profile** *myprofile* parameter specifies the profile to use. The *myprofile* value can be one of the following items:

      - The name of the profile, such as ce_was_tiv_db2. The profile must be located in the *ce_install_path*/tools/configure/profiles directory, where *ce_install_path* is the location where the Content Engine software is installed.
      - The absolute path to the profile directory, such as "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2" or opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2.
      - The absolute path to the profile input file, such as "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg" or opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2/ce_was_tiv_db2.cfg.

Remember: If the path includes a directory name with spaces, enclose the entire path in quotation marks. For example, enter "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg".

Editing the deployment configuration files

You must edit the applicationserver.xml and deployapplication.xml configuration XML files to provide the property values for your environment. You can use any text editor to open and edit the files.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

To edit the values in the configuration XML files:

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Configuration Manager values, filter by the task you are editing in the **Installation or Configuration Program** column:
   - **CM: Set Application Server properties**
   - **CM: Deploy Application**
2. If you have not already edited the applicationserver.xml file in "Configuring Content Engine" on page 18, set the application server property values for your site.
   a. Use a text editor or XML editor to open the applicationserver.xml file.
   b. Replace each occurrence of ****INSERT VALUE**** with a value appropriate for your site. See the descriptions in the file for more information.
   c. Verify that the default values for the remaining properties are correct for your site.
   d. Save your edits.
3. Set the deployment property values for your site.
   a. Use a text editor or XML editor to open the applicationserver.xml file.
   b. Replace each occurrence of ****INSERT VALUE**** with a value appropriate for your site. See the descriptions in the file for more information.
   c. Set the **enabled** attribute value in the **<configuration>** tag to true. By default, the **enabled** value is set to false. For deployment to occur, you must enable the task.
   d. Verify that the default values for the remaining properties are correct for your site.
   e. Save your edits.
4. Run the **storepasswords** command to encrypt and store the web application server administrator password.

   ```
   configmgr_cl storepasswords -profile myprofile
   ```

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Running the deployapplication.xml file

From the command line, you can run the **execute** command on the `deployapplication.xml` configuration XML file to deploy the Content Engine application on the web application server.

To run the `deployapplication.xml` file:

1. Navigate to *ce_install_path*/tools/configure , where *ce_install_path* is the path where you installed Content Engine.
2. Run the following command:

   ```
   configmgr_cl execute -task DeployApplication -profile myprofile
   ```

   where the **-profile** *myprofile* parameter specifies the profile to use. The *myprofile* value can be one of the following items:

   - The name of the profile, such as ce_was_tiv_db2. The profile must be located in the *ce_install_path*/tools/configure/profiles directory, where *ce_install_path* is the location where the Content Engine software is installed.
   - The absolute path to the profile directory, such as `"C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2"` or `opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2`.
   - The fully qualified path to the profile input file, such as `"C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg"` or `opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2/ce_was_tiv_db2.cfg`.

   Remember: If the path includes a directory name with spaces, enclose the entire path in quotation marks. For example, enter `"C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg"`.

Checking the configuration status of the `deployapplication` task

From the command line you can check the status of a single task, such as the `deployapplication` task. Checking the completion status does not validate the information in the XML files.

To check the status

1. Set the current directory to *ce_install_path*/tools/configure, where *ce_install_path* is the location where Content Engine is installed.
2. At the command prompt, run the following command:

   ```
   configmgr_cl checkStatus -task deployapplication -profile myprofile
   ```

   where the **-profile** *myprofile* parameter specifies the profile to use. The *myprofile* value can be one of the following items:

   - The name of the profile, such as ce_was_tiv_db2. The profile must be located in the *ce_install_path*/tools/configure/profiles directory, where *ce_install_path* is the location where the Content Engine software is installed.

- The absolute path to the profile directory, such as "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2" or opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2.
- The fully qualified path to the profile input file, such as "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg" or opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2/ce_was_tiv_db2.cfg.

Remember: If the path includes a directory name with spaces, enclose the entire path in quotation marks. For example, enter "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg".

The task execution status messages are displayed.

Installing storage device source files

If your IBM FileNet P8 system includes IBM Tivoli Storage Manager or EMC Centera devices, you must install files on the Content Engine server.

“Installing Tivoli Storage Manager client and adding native API library paths (WebLogic)”
The client software and the native API library paths enable you to use Tivoli Storage Manager to access a fixed content device.

“Installing or updating EMC Centera SDK library files” on page 49
EMC Centera SDK library files enable communication between the IBM FileNet P8 environment and the EMC Centera fixed content devices.

Installing Tivoli Storage Manager client and adding native API library paths (WebLogic)

The client software and the native API library paths enable you to use Tivoli Storage Manager to access a fixed content device.

“Installing Tivoli Storage Manager client”
Install the Tivoli Storage Manager client software on each application server where Content Engine is deployed.

“Copying the Tivoli Storage Manager API library files to additional servers” on page 48
If you are running a Content Engine server farm, the Tivoli Storage Manager API libraries need to be on each server in the farm.

“Creating a shared library definition for Tivoli Storage Manager native API library files” on page 48
The shared library definition specifies the location of the Tivoli Storage Manager JAR file.

Installing Tivoli Storage Manager client

Install the Tivoli Storage Manager client software on each application server where Content Engine is deployed.

1. Download the Tivoli Storage Manager client software from the IBM Support site at http://www.ibm.com/support/docview.wss?uid=swg24019757.
2. Complete the platform-specific installation instructions included with each Tivoli Storage Manager client download package.

Copying the Tivoli Storage Manager API library files to additional servers

If you are running a Content Engine server farm, the Tivoli Storage Manager API libraries need to be on each server in the farm.

Copy the entire `tsm100`directory structure from the Content Engine installation directory to each of the servers in the farm. It is a best practice to use the same directory structure on each server in the farm. For example:

Option	Description
Windows	`C:\Program Files\IBM\FileNet\ContentEngine\tsm100`

Creating a shared library definition for Tivoli Storage Manager native API library files

The shared library definition specifies the location of the Tivoli Storage Manager JAR file.

1. Open in an edit window the WebLogic script that sets up the domain environment. The following are example paths to this script:

Option	Description
Windows	`C:\bea\user_projects\domains\base_domain\bin\setDomainEnv.cmd`

2. Edit the WebLogic script by adding the lines shown below, for your operating system, just before the line in which the `WL_HOME` variable is set. Substitute your version identifier in place of `weblogic92` as appropriate. There is no carriage return after any line that ends with /, \, :, or _.

Option	Description

Windows	`set TSMAPILIB=C:\\Program Files\IBM\FileNet\ContentEngine\tsm100`
	`set PATH=%PATH%;%TSMAPILIB%`
	`set EXT_POST_CLASSPATH=%EXT_POST_CLASSPATH%;%TSMAPILIB%\TsmJavaApi.jar`
	`set WL_HOME=C:\bea\weblogic92`

3. If you are using WebLogic Node Manager to start and stop WebLogic Managed Servers in a clustered environment, you must enable Node Manager to use the appropriate start script:
   a. Open for editing the node manager configuration file `WL_HOME/common/nodemanager/nodemanager.properties`.
   b. Set the StartScriptEnabled property to true (default is false).
   c. Set the StartScriptName to match the script name used by Node Manager to start the managed server, depending on your operating system:

Option	Description
UNIX	`StartScriptName=startManagedWebLogic.sh`
Windows	`StartScriptName=startManagedWebLogic.cmd`

Important: If the managed server is not on the same machine as the WebLogic Administration Server and you have an alternate script matching the name of the Managed Server in the domain `bin` directory, make sure to specify that script name instead of the more generic "startManagedWebLogic" script.

4. Save your edits in `nodemanager.properties` and restart the Node Manager.

Installing or updating EMC Centera SDK library files

EMC Centera SDK library files enable communication between the IBM FileNet P8 environment and the EMC Centera fixed content devices.

"Installing EMC Centera SDK version 3.2 library files"
Content Engine needs to use the SDK library files to access EMC Centera fixed content devices.

"Configuring EMC Centera SDK environment variables for version 3.2" on page 50
You must specify values for the environment variables so that Content Engine can access the EMC Centera SDK library files.

Installing EMC Centera SDK version 3.2 library files

Content Engine needs to use the SDK library files to access EMC Centera fixed content devices.

To install EMC Centera SDK version 3.2 library files:

1. Log on to the Content Engine Server machine as *ce_install_user*.
2. Back up or delete any existing EMC Centera SDK library files, which are located in the Default Destination Installation Location column of the following table:

Operating system	Default destination installation location
Windows	`C:\Centera_SDK`

3. Copy the appropriate directory to a location on the Content Engine Server machine, such as `/tmp` (UNIX) or `C:\Temp` (Windows), as shown in the following table. The `Centera` directory in the Content Engine software package contains the Centera SDK version 3.2 installation files.

Operating system	Directory to be copied
AIX®, Solaris, Windows	Copy the entire `Centera` directory

4. On the Content Engine Server machine, navigate within the `Centera` directory (at its copied location) to the `install` subdirectory, which contains the installer script.
5. Run the installer script corresponding to the operating system on the Content Engine Server machine. On Windows, specify the installation directory, such as `C:\Centera_SDK`, on the command line.

Option	Description
Windows	`install.bat C:\Centera_SDK`

6. The installer script creates both 32-bit and 64-bit library directories, and puts them in a default installation directory, depending on your operating system (as shown in the following table). Accept or change the default when prompted by the script.

Operating system	Subdirectories of extracted EMC Centera SDK directory	Description
AIX, Solaris, and Windows	`lib`	`lib` has the native library files that are to be installed.

Configuring EMC Centera SDK environment variables for version 3.2

You must specify values for the environment variables so that Content Engine can access the EMC Centera SDK library files.

1. Locate the sample setup script on the Content Engine installation media. The file name of the sample setup script depends on your operating system:

Option	Description
Windows	`setCenteraLibPath.bat`

2. Modify the sample setup script as indicated in the following table:

   Note that the CENTERA_LIB_PATH variable needs to point to the sample script, not just the installation directory that contains the script.

   For example, if you have a 64-bit AIX system, and you change the destination installation path (*install_path* in the table below) from:

   `/usr/local/Centera_SDK` (the default)

   to:

   `/usr/local/Centera/SDK3.2.607`

   then change the installation path of the AIX script to:

   `/usr/local/Centera/SDK3.2.607/lib/64`

   Note that the actual location is appended with either `lib/32` or `lib/64` because the installation script creates both 32-bit and 64-bit library directories, and places them inside the `lib` directory.

Operating System	Script Revisions

Windows	From:
	`set CENTERA_LIB_PATH=C:\Centera_SDK\lib\32`
	`set PATH=%PATH%;%CENTERA_LIB_PATH%`
	
	to:
	`set CENTERA_LIB_PATH=`*`install_path`*` \lib\32`
	`set PATH=%PATH%;%CENTERA_LIB_PATH`
	
	or:
	`set CENTERA_LIB_PATH=`*`install_path`*` \lib\64`
	`set PATH=%PATH%;%CENTERA_LIB_PATH`

3. Copy the modified script text into one of the application server startup scripts shown in the following table, or save the updated script and call it from the application server startup script.

Application Server	Startup Script (UNIX)	Startup Script (Windows)
Oracle WebLogic Server	`setDomainEnv.sh`	`setDomainEnv.cmd`

4. Stop and start the application server.

Completing Content Engine post-deployment steps

You must complete the post-deployment web application server configuration before you can put an IBM FileNet P8 system into production.

"Completing Content Engine post-deployment steps (Oracle WebLogic Server)"
You must complete the post-deployment web application server configuration before you can put an IBM FileNet P8 system into production.

Completing Content Engine post-deployment steps (Oracle WebLogic Server)

You must complete the post-deployment web application server configuration before you can put an IBM FileNet P8 system into production.

To complete the post-deployment configuration:

Restart the web application server where Content Engine is deployed.

Option	Description
Stand-alone server	Stop and start the application server.
Cluster	Stop and start the cluster.

Verifying the Content Engine deployment

You can verify that the Content Engine deployment was successful by accessing the IBM FileNet P8 System Health page.

1. Verify the state of Content Engine deployment by browsing to the IBM FileNet P8 System Health page:

   `http://server:port/P8CE/Health`

   where:

   server is the host name of the machine where Content Engine is deployed.

   port is the WSI port used by the Web application server on the machine where Content Engine is deployed.

   The following table lists an example address for your application server:

Table 7. Example FileNet P8 System Health page address

Application Server Type	Web Page Address
Oracle WebLogic Server	`http://server:7001/P8CE/Health`

2. Verify that the FileNet P8 System Health page contains the Content Engine instance host name and port number. The FileNet P8 System Health page provides status for the items in the following table.

   Tip: At this point, red icons appear on the page at the left of those entries that do not yet exist. In particular, if you are upgrading from version 3.5.2, a red icon appears before the GCD, directory configurations, object stores, storage areas, and sites entries. Also, if you are upgrading from version 3.5.2, no domain name appears yet in the Domain entry.

Table 8. FileNet P8 System Health page contents

Section	Description
Domain	Displays the FileNet P8 domain name if a domain was found.
Global Configuration Database	Verifies that the GCD contains a valid domain object, that the XA and non-XA data sources are defined and have unique names, and that the bootstrap user name and password are defined. If any of these verification tests fail, then the failed icon is displayed.
Directory Configurations	Verifies that at least one directory service is configured and lists the number of configured directory service providers.
PE Connection Points	Displays the number of Process Engine connection points.
PE Isolated Regions	Displays the number of Process Engine isolated regions.
Fixed Content Devices	Lists the number of fixed content devices (FCDs) For each FCD listed, there is at least one associated fixed storage area that is in the open state.
Object Stores	Verifies that at least one object store exists and lists the number of object stores.
Storage Areas	Verifies that at least one storage area is defined, lists the number of storage areas, and the status for each storage area, such as online or offline.
Content Cache Areas	Displays the number of content cache areas.
Sites	Verifies that at least one site is defined and lists the number of sites. For each site listed, at least one virtual server or server instance exists.

3. Optional: Bookmark the FileNet P8 System Health page Web page address in your browser for later use.
4. Browse to the FileNet Engine Web page:

   `http://`*`server`*`:`*`port`*`/FileNet/Engine`

   where:

   server is the host name of the machine where Content Engine is deployed.

   port is the HTTP port used by the application server where Content Engine is deployed.

   The following table lists an example address for your application server:

Table 9. Example FileNet Engine Web page address

Application Server Type	Web Page Address
Oracle WebLogic Server	http://myserver:7001/FileNet/Engine

5. Verify that the FileNet Engine Web page contains the following information:
   - Verify the value in the **Startup Message** key. The Content Engine build and version (for example, dap451.097), must match the build and version in the *`ce_install_path`*`/ce_version.txt` file, where *ce_install_path* is the location where the Content Engine software is installed.
   - Verify the value in the **Process Engine** key. The Process Engine Client build and version (for example, pui451.075), must match the build and version in the `version.txt` file in the TAR or ZIP file of the Process Engine Client installation software.

- Verify that the values for JDBC driver, server instance, operating system, and other properties match the values that you entered when you configured Content Engine.

6. Optional: Bookmark the FileNet Engine Web page in your browser for later use.

Establishing the FileNet P8 domain and Global Configuration Data (GCD)

With Content Engine installed and deployed, you must use IBM FileNet Enterprise Manager to create a FileNet P8 domain. You can also use Enterprise Manager to set a URL to the FileNet P8 online help if you did not specify the location when you ran the Content Engine installation program.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

Important: If you run Enterprise Manager as a limited (non-administrative) user account, you cannot update the **Base URL for the FileNet P8 Platform help files** field in the General tab of the Enterprise Manager Properties dialog box. However, you can update the field later by logging on to Enterprise Manager as the *gcd_admin* user.

1. Create a FileNet P8 domain:
   a. Open your completed Installation and Upgrade Worksheet file.

      Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Enterprise Manager values for this task, filter by **EM: Create FileNet P8 domain** in the **Installation or Configuration Program** column.
   b. Start Enterprise Manager by double-clicking the Enterprise Manager icon on the desktop, or by clicking **Start** → **All Programs** → **IBM FileNet P8 Platform** → **Enterprise Manager Administration Tool**.
   c. Complete the wizard screens by using the values in your worksheet. The values displayed in the screens are default values that you must change to match your site.
2. Configure directory service authentication.

   Important: For multi-realm authorization, run the Create a Directory Configuration wizard once for each realm. See the IBM FileNet P8 help topic **System Administration** → **Enterprise-wide Administration** → **FileNet P8 Security** → **How to** → **Configure multiple realms**.
   a. Return to your completed Installation and Upgrade Worksheet file.

      Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Enterprise Manager values for this task, filter by **EM: Create a Directory Configuration** in the **Installation or Configuration Program** column.
   b. In the FileNet P8 Logon dialog box, click **Connect**.
   c. In the Add Domain Configuration window, enter the values from your worksheet.
   d. In the Create P8 Domain window, enter the name for a new FileNet P8 domain from your worksheet and click **Continue** to start the Create a Directory Configuration wizard.

If an error occurs, check the application server log file on the machine where Content Engine is deployed.

Application server type	Path to log file
Oracle WebLogic Server	*WLS_install_path*/user_projects/domains/*domain_name*/servers/*server_name*/logs/*server_name*.log

e. Complete the wizard screens by using the values in your worksheet. The values displayed in the screens are default values that you must change to match your site.

The Create a Directory Configuration wizard prompts you for many of the same parameters that you provided to Configuration Manager when you edited the Configure LDAP task.

See the topic for your directory service provider in the IBM FileNet P8 help topic **System Administration** → **Enterprise-wide Administration** → **FileNet P8 Security** → **Directory service providers**.

f. In the Configure New Domain Permissions message box, click **OK** to acknowledge that the directory configuration is complete but remains in restricted mode. The Configure New Domain Permissions wizard automatically starts the first time you start Enterprise Manager if you have not defined any Global Configuration Data (GCD) administrators.

3. Configure permissions for the FileNet P8 domain.
   a. Return to your completed Installation and Upgrade Worksheet file.

      Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Enterprise Manager values for this task, filter by **EM: Configure New Domain Permissions** in the **Installation or Configuration Program** column.
   b. Complete the wizard screens by using the values in your worksheet.
   c. In the Configure New Domain Permissions message box, click **OK**.
4. Close Enterprise Manager.

Creating the data sources for an object store

Each object store in your site requires its own JDBC data sources. You can configure the data sources by using the Configuration Manager graphical user interface or the command line.

You created the JDBC data source for the Global Configuration Data (GCD) earlier in the configuration process. You must add the data sources now for at least one object store. You can create additional object store data sources as needed either immediately after you create the initial object store data sources or after you have confirmed your Content Engine configuration.

Restriction: Configuration Manager cannot create a data source that uses the same name as an existing data source. If you manually configured a data source by using your web application server administration tools, and you want to reuse the name, then you must manually delete the existing data source before you attempt to create the data source in Configuration Manager. See your web application server documentation for more information.

"Creating the initial object store data sources by using the graphical user interface" on page 55
You must create the JDBC data sources for each object store that Content

Engine uses. Content Engine uses the data source information to connect to and update the object store database. By default, each profile includes a task for creating the data sources for a single object store.

"Creating additional object store data sources by using the graphical user interface" on page 56
You must create the JDBC data sources for each object store that Content Engine uses. Content Engine uses the data source information to connect to and update the object store database. By default, each profile includes a task for creating the data sources for a single object store, and you can add additional tasks as needed for each additional object store.

"Creating the data sources by using the command line" on page 57
You must create the JDBC data sources for each object store that Content Engine uses. You must generate, edit, and execute a new `configurejdbc-os.xml` file for each object store in your environment.

Creating the initial object store data sources by using the graphical user interface

You must create the JDBC data sources for each object store that Content Engine uses. Content Engine uses the data source information to connect to and update the object store database. By default, each profile includes a task for creating the data sources for a single object store.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

Tip: For more information on the properties and values you set in Configuration Manager, roll your mouse over the property name to view the hover help for the property.

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Configuration Manager values for this task, filter by **CM: Configure Object Store JDBC Data Sources (object store 1)** in the **Installation or Configuration Program** column.
2. Start or stop the application server, depending on its type.

Table 10. Required application server state

Option	Description
Oracle WebLogic Server	Start the application server if it is not already running.

3. If your configuration profile is not open in Configuration Manager, open it by selecting **File** → **Open** and navigating to your *`profilename`*`.cfgp` file.
4. Right-click **Configure Object Store JDBC Data Sources** in the profile pane, and select **Edit Selected Task**.
5. Enter the property values for your data sources by using the values in your installation worksheet.
6. Select **File** → **Save** to save your changes.
7. Optional: WebSphere and WebLogic only. Click **Test Database Connection** to test the connection to the database by using the database user name, database server name, database name, port number, and password that you provided. The test does not create the data sources.

8. Ensure that the task is enabled. When the task is disabled, the task name includes the text **(disabled)**. To enable the task, right-click **Configure Object Store JDBC Data Sources (disabled)** in the profile pane, and choose **Enable Selected Task** from the context menu.
9. Apply the JDBC property settings by right-clicking **Configure Object Store JDBC Data Sources** in the profile pane, and selecting **Run Task**. Running the configuration task can take several minutes. The task execution status messages are displayed in the Console pane below the bootstrap properties.

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Related tasks

"Creating a new configuration profile" on page 22
Configuration Manager stores your settings for deploying a Content Engine application instance in a configuration profile. The profile defines the application server settings, the JDBC data source settings, the login modules settings, the directory service provider (LDAP) settings, the Content Engine bootstrap settings, and the application deployment settings. You must create a new profile for each Content Engine instance that you are configuring.

"Configuration Manager user interface reference" on page 174
The Configuration Manager graphical user interface (GUI) lets you create, view, and edit your Content Engine configuration profile. You can also make a copy of an existing profile, run configuration tasks, view the session logs, and check the status of a particular task.

Creating additional object store data sources by using the graphical user interface

You must create the JDBC data sources for each object store that Content Engine uses. Content Engine uses the data source information to connect to and update the object store database. By default, each profile includes a task for creating the data sources for a single object store, and you can add additional tasks as needed for each additional object store.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

The default configuration profile contains one task for configuring a single object store. You must create and run a new task for each additional object store in that Content Engine uses.

To configure the JDBC settings for additional object stores:

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Content Engine values, filter by **CM: Configure JDBC data sources (object store 2)** in the **Installation or Configuration Program** column.
2. Start or stop the application server, depending on its type.

Table 11. Required application server state

Option	Description
Oracle WebLogic Server	Start the application server if it is not already running.

3. If your configuration profile is not open in Configuration Manager, open it by select **File** → **Open** and navigating to your *profilename*.cfgp file.
4. Create a task for the additional object store.
   a. Right-click any ***task name*** in the profile pane, such as **Configure Object Store JDBC Data Sources**, and select **Add New Task** → **Configure JDBC Data Sources**. The **New_Configure JDBC Data Sources** task is added to the profile.
   b. Right-click **New_Configure JDBC Data Sources**, and select **Rename Task**.
   c. Enter a useful name for the task, such as **Configure Object Store 2 JDBC Data Sources**.
   d. Click **OK**.
5. Right-click the **Configure Object Store 2 JDBC Data Sources** task in the profile pane, and select **Edit Selected Task**.
6. Provide the property values for the JDBC data sources for the object store by using the values in your worksheet for your additional object store.
7. Select **File** → **Save** to save your changes.
8. Optional: WebSphere and WebLogic only. Click **Test Database Connection** to test the connection to the database by using the database user name, database server name, database name, port number, and password that you provided. The test does not create the data sources.
9. Ensure that the task is enabled. When the task is disabled, the task name includes the text **(disabled)**. To enable the task, right-click **Configure Object Store 2 JDBC Data Sources (disabled)** in the profile pane, and choose **Enable Selected Task** from the context menu.
10. Apply the JDBC property settings by right-clicking **Configure Object Store 2 JDBC Data Sources** in the profile pane, and selecting **Run Task**. Running the configuration task can take a few minutes. The task execution status messages are displayed in the Console pane below the bootstrap properties.
11. Optional: Repeat this procedure as needed to add the data sources for each object store in your environment.

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Related tasks

"Configuration Manager user interface reference" on page 174
The Configuration Manager graphical user interface (GUI) lets you create, view, and edit your Content Engine configuration profile. You can also make a copy of an existing profile, run configuration tasks, view the session logs, and check the status of a particular task.

Creating the data sources by using the command line

You must create the JDBC data sources for each object store that Content Engine uses. You must generate, edit, and execute a new configurejdbc-os.xml file for each object store in your environment.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

If you generated all of the configuration profiles at the same time, you have already created an initial `configurejdbc-os.xml` file for the initial object store data sources. If you have an existing `configurejdbc-os.xml` file, you can generate another file for each additional object store. Each additional file that you add is named `configurejdbc-os.`*n*`.xml`. You can generate multiple `configurejdbc-os.`*n*`.xml` files as needed, depending on the number of object stores in your environment. For best results, create an additional file for each object store.

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Configuration Manager values for this task, filter by **CM: Configure Object Store JDBC Data sources (object store 1)** in the **Installation or Configuration Program** column.
2. Log on to the application server as *config_mgr_user*, the user who runs Configuration Manager.
3. If you did not generate all the configuration files at the same time or if you must create another file, generate the `configurejdbc-os.`*n*`.xml` file by running the following command:

   ```
   configmgr_cl  generateConfig -appserver  app_server_type -db  db_type
    -task configurejdbcos -profile myprofile
   ```

   where:

   -appserver *appserver_name*
      The **-appserver** *appserver_type* specifies the type of application server and must be WebSphere, WebLogic, or JBoss.

   -db *database_type*
      The **-db** *database_type* parameter is required only when you are generating all the files at the same time or when you are generating a single file by using the `configurejdbcgcd` or `configurejdbcos` option. This parameter specifies the type of database to be used by Content Engine and must be `mssql`, `oracle`, `oracle_rac`, `db2`, or `db2zos`.

   -profile *myprofile*
      The **-profile** *myprofile* parameter specifies the profile to use. The *myprofile* value can be one of the following items:
      - The name of the profile, such as ce_was_tiv_db2. The profile must be located in the *`ce_install_path`*`/tools/configure/profiles` directory, where *ce_install_path* is the location where the Content Engine software is installed.
      - The absolute path to the profile directory, such as `"C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2"` or `opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2`.
      - The absolute path to the profile input file, such as `"C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg"` or `opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2/ce_was_tiv_db2.cfg`.

      Remember: If the path includes a directory name with spaces, enclose the entire path in quotation marks. For example, enter `"C:\Program`

`Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg"`.

4. Use a text editor to open the `configurejdbc-os.n.xml` file and edit it as follows:
   a. Provide the entries that are required for your environment by using the values in your worksheet.
   b. Replace each occurrence of `****INSERT VALUE****` with a value appropriate for your site. See the descriptions in the file for more information.
   c. Verify that the default values for the remaining properties are correct for your site.
   d. Set the **enabled** attribute value in the **<configuration>** tag to `true` so that you can run the configuration task in 6.
   e. Save your edits.
5. Run the **storepasswords** command to encrypt and store the required passwords.
   ```
   configmgr_cl storepasswords -profile myprofile
   ```
6. Run the following command to execute the `configurejdbc.n.xml` file:
   ```
   configmgr_cl execute -task ConfigureJDBC -profile myprofile
   ```
7. Optional: Check the completion status by running the following command:
   ```
   configmgr_cl checkStatus -task configurejdbcos -task configurejdbc.n.xml
    -profile myprofile
   ```
   Where `configurejdbc.n.xml` is the task file for the object store.
8. Repeat 3 on page 58 through 6 as needed for each additional object store.

Related concepts

Specifying accounts
For details on accounts and required permissions, see *Plan and Prepare Your Environment for IBM FileNet P8*.

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Creating the initial object store

You create an initial object store in Content Engine to store your documents and other objects. After an object store is created, you can refine its definition and add content to it.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

If you have not already done so, you must complete the following preparation tasks before you start the Create an Object Store wizard.

- Set up the initial storage area for the object store.
- Install the latest Content Engine service pack, as indicated in “Installing Content Engine software updates” on page 14.
- Create XA and non-XA data sources for the object store, as indicated in “Creating the data sources for an object store” on page 54).
- Read the FileNet P8 help topic *System Administration > Content Engine Administration > Object stores > Concepts*.

Important: The Create Object Store wizard fails to complete if you try to assign a new object store to a database or tablespace that is not completely empty.

To create an object store:

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Enterprise Manager values for this task, filter by **EM: Create Object Store** in the **Installation or Configuration Program** column.
2. Start Enterprise Manager by double-clicking the Enterprise Manager desktop icon, or by choosing **Start** → **All Programs** → **FileNet P8 Platform** → **Enterprise Manager** .
3. In the FileNet P8 Logon screen, select the FileNet P8 domain in which you will create an object store, and then click **Connect**.
4. In the tree view, right-click the **Object Stores** container and choose **New Object Store** to start the Create an Object Store wizard.
5. Complete the wizard screens by using the values in your worksheet.

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Related tasks

Storage areas for object stores
For more information about object stores, see *Plan and Prepare Your Environment for IBM FileNet P8*.

Verifying the Content Engine installation

You can verify that the Content Engine installation succeeded by using IBM FileNet Enterprise Manager to create a folder and a document in each object store and then check the new document out and in.

To verify the Content Engine installation:

1. In Enterprise Manager, create a subfolder as follows:
   a. Expand the **Object Stores container** and expand the node for the object store.
   b. Right-click the **Root Folder icon**, and select **New Sub Folder**.
   c. Enter a ***folder name*** and click **Create**.
   d. Choose **Action** → **Refresh** to view the subfolder you created.
2. Create a document:
   a. Expand the **Root Folder container**.
   b. Right-click the ***folder name*** that you just created, and select **New Document**.
   c. Enter the **Document Title** (for example, *Coffee Bean.bmp*), click **With content**, and click **Next**.
   d. Click **Browse/Add** to select a file (for example, `C:\WINDOWS\Coffee Bean.bmp`), click **Open**, and then click **Create**. Notice that a new document with a containment name matching the document title you used and a major version of 1 is now in your folder.
3. Check out a document as follows:

a. Right-click the document object that you just created (**Coffee Bean.bmp**), and select **Exclusive Check Out** (Default).
b. Navigate to the folder where you want the checked-out document to reside and click **Open**. Note the version number of the document.
c. Click **Yes** to edit the file.
d. Make some change to the file and save it.
e. Close the application you used to edit the file.

4. Check in the document:
a. Right-click the document object that you just edited (**Coffee Bean.bmp**), and select **Check In**.
b. In the **File Name** field, click **Browse/Add** .
c. Select the file that you checked out (**Coffee Bean.bmp)**, and click **Open**.
d. Click **Check In**.
e. Right-click the **document object** that you just checked in, select **Properties**, and click the **Versions** tab of the Properties dialog box. Notice that the value of the Major Version field has been incremented.

Installing and configuring Content Search Engine

This topic explains how to install and configure Content Search Engine.

Installing Content Search Engine

Use this procedure to install and configure IBM FileNet P8 Content Search Engine, an optional component based on the Autonomy K2 product.

Overview

Because Autonomy K2 software underlies Content Search Engine, you must install and configure Autonomy K2 on each machine in your Content Search Engine configuration.

The Autonomy K2 software is installed on each machine that is part of your Content Search Engine configuration. You must designate one machine in the configuration as the Master Administration Server. The Master Administration Server can be used as a stand-alone Content Search Engine; additional K2 Administration Servers can be added. All K2 Administration servers are configured and controlled through the K2 Dashboard of the Master Administration server.

The K2 software also includes K2 servers, K2 broker servers, K2 ticket servers, and K2 index servers. The K2 broker servers distribute search requests to the K2 servers, which perform the actual searches within the collections. Collections are the index files that contain pointers to indexed documents and the indexed words in those documents. The K2 index servers maintain the indexes. The K2 ticket servers implement document-level and collection-level security.

For information about additional Autonomy K2 functionality, see the Autonomy documentation that is installed with the Autonomy K2 Master Administration Server located at: `http://`*`Master Administration Server hostname`*`:9990/verity_docs/`. The Autonomy documentation set is not searchable from the IBM FileNet P8 Help but it does have its own internal index and search functionality.

Important:

- Although the K2 Dashboard provides you with documentation for, and direct interfaces to, the K2 collections, IBM FileNet P8 requires that you use Enterprise Manager to manage collections associated with Content Search Engine index areas (for example, to add and remove index areas).
- Autonomy K2 was previously known as Verity, and you will see Verity still used in many of the interfaces described in the following procedures.
- If your Content Engine runs on Windows, then the machines in your Content Search Engine configuration must run on Windows. If your Content Engine runs on UNIX, then the machines in your Content Search Engine configuration must run on UNIX, but it to doesn't have to be the same UNIX type.
- Where machine name variables are required, IP addresses will not validate. A valid name must be entered.
- If you unimport the style set, the original files will be deleted from your system. In this scenario, if you wish to re-import the style set, you must recover it from your installation package. In order to avoid this situation, you can either enter a unique name for the Style Set Alias during the initial Content Search Engine (Autonomy K2) installation, or make a backup copy of the original style set. If you enter a unique name for the style set during installation, ensure you use that name when you configure Content Engine for content-based retrieval.
- Stop word files can be used to increase performance by about 30%. You can place the `style.stp` file into the `stylefiles` directory to list words you do not want full-text indexed, for example, short words such as a, the, or and. However, any word in the stop word file cannot be searched. See the K2 documentation for more details. To create a stop word file you can typically copy the `vdk30.stp` file from either the main K2 install directory or the foreign language locales package over to the main `stylefile` directory, and then rename the file `style.stp`. You must do this copy operation before you create collections.

Because indexing is case sensitive, the `style.stp` file should include lower-case and upper-case versions of words in the stop word list. For example, use "the", "The" and "THE" if you think that all of these might be encountered in a search.

Installing Content Search Engine (Windows)

Install the Autonomy K2 software on each machine in your Content Search Engine configuration. You must complete an installation of the Master Administration software before you can install additional K2 Administration Servers. The Master Administration Server dashboard is the central control point for configuring Content Search Engine for single-server or multiserver installations.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

The Master Administration Server dashboard is also the central control point for configuring all additional Administration Servers that are part of the Content Search Engine configuration.

You must designate each installation as either a Master Administration Server software installation or an Administration Server software installation.

Important: Only one K2 Master Administration Server can be installed for each Content Engine domain.

You can install Autonomy K2 software either interactively or silently.

"Installing Content Search Engine interactively (Windows)"
To install Content Search Engine interactively, you run a program wizard.

"Installing Content Search Engine silently (Windows)" on page 66
When you install Content Search Engine silently, you run a command in the Content Search Engine software package that references parameters in an installation text file.

"Setting the logon user for the K2 Administration Server service (Windows)" on page 66
To avoid problems when indexing documents using UNC, or viewing UNC-indexed documents, the *k2_os_user* needs to run the K2 Administration Server service.

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Installing Content Search Engine interactively (Windows)

To install Content Search Engine interactively, you run a program wizard.

To install Content Search Engine interactively:

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Content Search Engine values, filter by **CSE Installer** in the **Installation or Configuration Program** column.
2. Log on to the host machine as *k2_os_user*.
3. Access the IBM FileNet P8 Content Search Engine installation package and run the `P8CSE-4.5.1.0-WIN.EXE` file.
4. Complete the installation program screens by using the values in your worksheet.
5. Review the following Content Search Engine log files for installation errors. The files are located in the `verity` directory of the installation path:
   - *verity_install_path*`\cse_install_log_4_5_1.txt`
   - *verity_install_path*`\vconfig.log`

It is a best practice to review log files even if the Content Search Engine installation program does not indicate any errors. Some errors noted in the log files are benign. If an error is not benign (that is, you cannot subsequently index or search for documents), refer to the log file for help in determining the cause.

6. After the installation finishes, complete the following substeps:
   a. Verify that the Verity K2 Administration Web Server service (Tomcat server) is installed and has started.
   b. Verify that the Verity K2 6.2.1 Administration Server service exists.

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Installing Content Search Engine silently (Windows)

When you install Content Search Engine silently, you run a command in the Content Search Engine software package that references parameters in an installation text file.

To install Content Search Engine silently:

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Content Search Engine values, filter by **CSE Installer** in the **Installation or Configuration Program** column.
2. Log on to the host machine as *k2_os_user*.
3. Edit the `cse_silent_install.txt` file to reflect the appropriate responses for your installation by using the values from your worksheet.
4. Run the IBM FileNet P8 Content Search Engine installation program by executing the following command:

   ```
   P8CSE-4.5.1.0-WIN.EXE -f CSE_silent_install.txt -i silent
   ```
5. Review the following Content Search Engine log files for installation errors. The files are located in the `verity` directory of the installation path:
   - *verity_install_path*`\cse_install_log_4_5_1.txt`
   - *verity_install_path*`\vconfig.log`

   It is a best practice to review log files even if the Content Search Engine installation program does not indicate any errors. Some errors noted in the log files are benign. If an error is not benign (that is, you cannot subsequently index or search for documents), refer to the log file for help in determining the cause.

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Setting the logon user for the K2 Administration Server service (Windows)

To avoid problems when indexing documents using UNC, or viewing UNC-indexed documents, the *k2_os_user* needs to run the K2 Administration Server service.

To set the logon user for the K2 Administration Server service:

1. Open the Windows Services window (for example, on Windows Server 2003, right-click My Computer and choose **Manage** → **Services and Applications** → **Services** select Manage Services and Applications | Services).
2. Select and double-click the Verity K2 6.1 Administration Server service.
3. Click the **Log On** tab, enter the *k2_os_user* user and password under which Autonomy K2 services will run, and click **OK**.

   Important: Whenever you change the password for the *k2_os_user* account, you must update the password on this tab as well. Otherwise, the K2 Administration Server will not start when you restart the machine. Also, depending on your domain controller group policy settings, the password for this account may be reset, which will result in logon failures for the K2 Administration Server service when the machine is restarted. To avoid these failures, contact your Windows administrator.
4. Restart the Verity K2 6.1 Administration Server service.

Configuring Content Search Engine

Use this procedure to configure services required on the K2 Master Administration Server, and on additional Administration Servers you might install for IBM FileNet P8 Content Search Engine. All servers are configured through the Master Administration Server Dashboard.

- When you name the servers that you create, it is a best practice to indicate the type of server in the server name. Otherwise, when you configure Content Engine by using Enterprise Manager, it can be difficult to determine which server to select for an action. For example, use `server_name_broker` to indicate a Broker Server service.
- Record the server names, port numbers, and settings that you define. Much of the following information will be required later when you configure the IBM FileNet P8 Content Engine for content-based retrieval later.
- A range of ports is recommended in the Verity K2 Dashboard for each service you create. You do not have to choose a port number from within that range.
- Repeat the related step in the procedure below to add additional services. Some guidelines must be adhered to when adding additional services:
  - Multiple brokers can be assigned, so that if one goes down the others will be used. However, each broker must have all K2 Servers (search servers) attached that are needed to access collections (index areas). The Content Engine Server will not call multiple brokers and merge the results.
  - If you add additional Index Servers and K2 Servers (search servers), they will not be activated until you enable them through Enterprise Manager. See Configure Content Engine for content-based retrieval for details.
  - Each K2 Administration Server must contain a Ticket Server for Content Engine.
  - For good stability and performance, Broker Servers must be attached to local Ticket Servers for security on each machine.
- In the following procedure you must import the IBM FileNet Styleset only once, regardless how many K2 Administration Server machines you install.

To configure Content Search Engine:

1. (Optional) Configure the Autonomy K2 Dashboard to use SSL security. The Autonomy K2 Dashboard web application, by default, uses a non-SSL web site

and sends username and password information in plain text. For information on how to modify your Tomcat web applications to use SSL, access the following address:

http://tomcat.apache.org/tomcat-5.5-doc/ssl-howto.html

2. Access the K2 Dashboard by launching your browser and entering:

   http://*Master Administration Server hostname*:9990/verity_dashboard/main.jsp
3. Create a K2 Index Server, as follows:
   a. Click **K2 Index Servers** under **System View**.
   b. Click **Add a K2 Index Server** on the K2 Index Server Summary page.
   c. Enter the following information on the Configure basic settings for the new K2 Index Server page:
      - Service Alias: *server_name* _index_server
      - Port: 9960 - 9979 (suggested range)
   d. Click **Next** to continue with the installation.
   e. Enter the following information on the Configure threads for the K2 Index Server page:
      - Synchronous Threads: 25
      - Asynchronous Threads: 3
      - Access Type: *Authorized Administrator*
   f. Click **Finish** to continue with the installation.
4. Set the Index Server logging properties:
   a. Click the Index Server, under System View, that you want to adjust.
   b. Click **Edit Properties** under Actions.
   c. Click the **Logging** tab.
   d. For Status Log Nominal Size, enter the following value:

      9000 kilobytes
   e. Click **Modify**.
5. Create a K2 Broker Server:
   a. Click **K2 Brokers** under **System View**.
   b. Click **Add a K2 Broker** on the K2 Broker Summary page.
   c. Enter the following information on the Configure basic settings for the new K2 Broker page:
      - Service Alias: *server_name* _broker
      - Port: 9900 - 9909 (suggested range)
   d. Click **Finish**.
6. Create a K2 Server (search server) and attach the Broker:
   a. Click **K2 Servers** under **System View**.
   b. Click **Add a K2 Server** under **Actions** on the K2 Server Summary page.
   c. Enter the following information on the Configure basic settings for the new K2 Server page:
      - Service Alias: *server_name* _search_server
      - Port: 9920 - 9949 (suggested range)
   d. Click **Next**.
   e. Click **Next** on the Set security options for this service page.
   f. Enter the following information on the Attach to K2 Brokers page:

- Select the K2 Brokers that will provide access to this service: Select the K2 Broker you created in step 3 from the drop-down menu, *server_name* _broker.

g. Click **Finish**.

7. Import the IBM FileNet Styleset.
   a. Click **Collections** under System View.
   b. Click **Manage Style Sets** under **Actions** on the Collection Summary page.
   c. Click **Import** on the Manage Style Sets page (top right).
   d. Enter the following information on the Import page:
      - Style Set Alias: *FileNet_FileSystem_PushAPI*
      - Gateway Type: --Auto-detect--
      - Source Administration Server. If multiple servers are installed, choose the server to which you will import the Styleset.
      - Source Path:

        Windows
        `verity_install_path\data\stylesets\FileNet_FileSystem_PushAPI`
   e. Click **Import**.

   Tip: The K2 Dashboard displays a notification that the StyleSet Editor web application cannot be accessed. You can ignore this message because it relates to a function that is not used by IBM FileNet P8 Content Search Engine.
8. Navigate to the source path you specified in the preceding step and complete the following substeps:
   a. Open the file `style.ufl` for editing.
   b. If it is not already present, add the CEMP definition at the bottom of the file:
```
data-table: fce
{
fixwidth: cemp_partition_date 4 unsigned-integer
}
```
   c. Save and close the file.
9. Create a K2 Ticket Server.
   a. Click **K2 Ticket Servers** under **System View**.
   b. Click **Add a K2 Ticket Server** under **Actions** on the **K2 Ticket Server Summary** page.
   c. Enter the following information on the Configure basic settings for the new K2 Ticket Server page:
      - Service Alias: *server_name* _ticket_server
      - Port: 9910 - 9919 (recommended range)
   d. Click **Next**.
   e. Enter the following information on the Configure the login module to use with this K2 Ticket Server page:
      - Select which Login Module type to use with this K2 Ticket Server:
        – Windows
        – UNIX

        Restriction: LDAP Ticket Servers are not currently supported.

- Default Domain (Windows only): Enter the domain on which this user and K2 Server are authenticated. If the server is in a workgroup, leave this field blank.

f. Click **Next**.

g. Enter the following information on the Configure the persistent store module to use with this K2 Ticket Server page:
   - Select the Persistent Store Module type to use with this K2 Ticket Server: Choose File and Memory.

h. Click **Finish**.

i. (Windows only) Specify local login settings:
   1) Click **Edit Properties**.
   2) Click Windows Login Module.
   3) Check **Use Local Credentials:**.
   4) Check Enable Built-in Groups.
   5) Click **Modify**.

10. Set Autonomy K2 Administration Security.
    a. Click the K2 Ticket Server you created.
    b. Click **Manage Administration Security** under Actions.
    c. Enter the following information on the **Manage Administration Security** page:
       - Select a K2 Ticket Server to configure for administration security: From the drop-down menu, select the K2 Ticket Server you just created.
       - User Name: Enter the `k2_os_user`.
       - Password: Enter the authentication password.
       - Default Domain (Windows only): Enter the domain on which this user and K2 Server are authenticated. If the server is in a workgroup, leave this field blank.
    d. Click **Modify**.

       The K2 software will authenticate the user based on the information you entered. If the check fails, an error message will indicate what failed and request that you re-enter the information.

       If administrator access is successful, Autonomy K2 will close the Dashboard and require that you log on again as the Dashboard Administrator to complete the configuration.
11. Launch the K2 Dashboard and log on.
12. Restart K2 services:
    a. Under **Notifications** on the K2 Dashboard Home page, a number of servers are listed as requiring a restart. Click **Start/Stop this Service** to access the settings page and follow the instructions listed there. Choose **Full Restart** to ensure that all services start as expected.
    b. Click **Home** in the top-left corner of the page after each restart to view the remaining notifications. Repeat the process until there are no notifications remaining.
13. Enable additional K2 Admin Users (optional).
    a. From the K2 Dashboard home page, click **Administration Servers**.
    b. Click **Manage K2 Administrative Users**.
    c. Click **Add User** on the **Manage K2 Administrative Users** page.

d. Enter the name of an authenticated user on the directory service that you want to make a K2 Administrator and click **Add**.

14. Enable security on the K2 services you have created.
    a. From the K2 Dashboard home page, click **K2 Ticket Servers**.
    b. Click your ticket server *server_name_ticket_server*.
    c. Click **Manage K2 Broker/K2 Server Security** in the Services Secured by this K2 Ticket Server section of the page (bottom right).
    d. Click the **K2 Servers** button on the **Manage K2 Broker/K2 Server Security** page.
    e. Click the service you just created which is listed in the window on the right to enable security.

       Important: If you have a multi-server configuration, numerous services, installed on other machines, will be listed also. Select only the service to which you want to attach a broker. Brokers must be attached to local ticket servers for Content Search Engine.
    f. Click the **K2 Brokers** button on the **Manage K2 Broker/K2 Server Security** page.
    g. Click the Broker in the window on the right that you want to attach to the local K2 ticket server you selected above.
    h. Click **Modify** to save your changes.
15. Restart K2 services, as follows:
    a. Click **Home** in the top left corner of the page.
    b. Under **Notifications** on the Verity K2 Dashboard Home page, a number of servers are listed as requiring a restart. Click **Start/Stop this Service** to access the settings page and follow the instructions listed there. Choose **Full Restart** to ensure that all services start as expected. Click **Home** in the top left corner of the page after each restart to view the remaining notifications. Repeat the process until there are no notifications remaining.

"Configuring services on Administration Servers"
Use this procedure to create and configure services on specific Content Search Engine machines (Administration Servers), other than the Master Administration Server. Services for all machines in your Content Search Engine configuration are configured through the Master Administration Server Dashboard.

Related concepts

Specifying accounts
For details on accounts and required permissions, see *Plan and Prepare Your Environment for IBM FileNet P8*.

Configuring services on Administration Servers

Use this procedure to create and configure services on specific Content Search Engine machines (Administration Servers), other than the Master Administration Server. Services for all machines in your Content Search Engine configuration are configured through the Master Administration Server Dashboard.

1. Click **Administration Servers** under **System View**.
2. Click the Administration Server to which you want to add services.
3. Click **Add a Service** under K2 Services on this Administration Server.
4. Select the service you want to add.

5. Follow the instructions and guidelines for the appropriate service in the To configure Content Search Engine procedure above to complete the service addition.

(optional) Installing additional locales

You must install the locale files on all Autonomy K2 Administration Server machines only if you need more than basic content search locale functionality, for example, indexing and searching in languages other than English, Englishv, or basic UNI.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

You need to know *k2_os_user* (the user who installed Content Search Engine), and *verity_install_path* (the installation path of Autonomy K2) from your installation of Content Search Engine.

Important:

- A Locales installer screen indicates that the installer is compatible only with Autonomy K2 version 6.2.0. However, the Locales installer is compatible with version 6.2.1, the version you installed with IBM FileNet P8 Content Search Engine 4.5.
- When the Locales installer prompts you for your installed version of Autonomy K2 from a dropdown menu, select `K2 6.2.0`.

Important: Although the Locales installer offers the option of installing to a location other than the Verity install location, do not choose this option. For Content Search Engine, you must install the locales to the `k2` directory of the Autonomy K2 installation path.

1. Open your completed Installation and Upgrade worksheet.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Locales installer values, filter by **CSE: Verity Locales 6.2.0 Installer** in the **Installation or Configuration Program** column.
2. Run the Locales installation, depending on your operating system.

   "Installing additional locales (Windows)"
   Install non-English locales on Windows machines only if you need them.

Installing additional locales (Windows)

Install non-English locales on Windows machines only if you need them.

1. Access the Autonomy K2 Master Administration Server machine and log on as *k2_os_user*.
2. Copy the Locales installation package, `P8CSE-4.5.1.0-Locales.zip` for your platform from the installation package to the machine and extract its contents to a local directory.
3. Stop the Autonomy K2 services, as follows:
   a. Access Component Services.
   b. Stop the Verity K2 Administration Server service and the Verity K2 Administration Web Server service.
4. Navigate to the decompressed Locales installer location and run the following command to start the Locales installer:

setupwin32.exe

5. At the Welcome screen, click **Cancel**, and then click **Yes** to exit.

   Important: By opening the Welcome screen, the Locales installer creates the _vpddb directory (and parent directories), which will contain the vpd.script file. This file contains a parameter that allows the Locales installer to find the existing Autonomy K2 installation. The path to the _vpddb directory has the following form:

   32 bit: C:\Program Files\Common Files\InstallShield\Universal*WinVersion*\x86*host_name*\Gen1_vpddb

   64-bit: C:\Program Files (x86)\Common Files\InstallShield\Universal*WinVersion*\x64*host_name*\Gen1_vpddb

   where *WinVersion* is the name of the Windows operating system, and *host_name* is the name of the K2 Master Administration Server machine.

6. Locate the vpd.script file in *verity_install_path*, open the file in a text editor, and make the following edits:
   - Replace the instance of <K2InstallDir> with your *verity_install_path*. For example: C:\Program Files\IBM\FileNet\ContentEngine\verity.
   - Replace both instances of <myHostName> with the Master Administration Server machine name.
   - Replace both instances of <WinVersion> with the value of *WinVersion* that the Locales installer generated in 5.
7. Copy the vpd.script file that you edited in 6 to the _vpddb directory that the Locales installer created in 5, overwriting the existing vpd.script file in that location.
8. Navigate to the decompressed Locales installer location and run the following command to start the Locales installer. The installer will locate the K2 installation based on the settings you specified in 6.

   setupwin32.exe

   Important: If the installer prompts you to choose whether to overwrite files that are newer than those to be installed, click **No to All**.
9. When prompted, select the **Install all platform binaries** option if you want licensed language locales not only for the Windows operating system on the machine where you are installing Locales, but also for all the supported UNIX operating systems.
10. When prompted, specify the following license key: 2UV4MPT-2KPEQBJ-1D6A6KT-2KPE6KT-2KPE6KS.
11. When the Locales installer completes, install the Locales supplement, as follows:
    a. Copy the Locales supplement file P8CSE-4.5.0-002-LOCALESSUPPLEMENT.zip from the installation media and extract it into a temporary directory on the machine where you installed Locales. Extracting the Locales supplement creates a subdirectory named k2 in the temporary directory.
    b. Copy the k2 subdirectory and paste it into *verity_install_path* directory. Overwrite any existing files that have the same name as those in k2.
12. Start the Autonomy K2 services that you stopped in 3 on page 72.
13. Run the following command to ensure that the locale license information is synchronized with the Master Administration Server:

```
rcadmin -update
```

Creating a Content Search Engine collections directory

Use this procedure to configure the storage location and related security for your K2 collections.

"Collections directory requirements"
The task of creating a collections directory includes setting up security permissions to allow read and write access.

Collections directory requirements

The task of creating a collections directory includes setting up security permissions to allow read and write access.

Important: Contrary to information outlined in the Autonomy-supplied documentation set, remote collections are not supported for use with IBM FileNet P8 Content Search Engine. Collections must be written locally to the Autonomy K2 server. Using a remote-mounted disk that is accessed via the network (NFS, PCNFS, or CIFS) will cause stability problems under load and corrupt your collections. Any existing configurations that contain non-local collections directories must be re-configured.

For performance reasons, create one collections directory for each index area that you create in IBM FileNet P8 Content Engine. Each collections directory you create must be set to provide proper security access as outlined below. The path to both the collections directory and collections temp directory must be entered in the index area properties when you create the index area.

Security and communication between Autonomy K2 Content Engine, and the collections directory is handled through the user accounts and permissions provided to those accounts.

For detailed information on security, see the IBM FileNet P8 help topic **System Administration** → **Enterprise-wide Administration** → **FileNet P8 Security** → **Authorization** → **Security for integrated components and third-party products** → **Autonomy K2 Server** → **Security for Autonomy K2 Server**.

To create a collections directory:

1. On the Autonomy K2 server, create a directory in which you will store K2 collections. Give read, write, and execute permissions to the *k2_os_user*.

   This path must be local to the index server that will be assigned to write collections. This is the same index server that you created when you configured Content Search Engine.
2. Create a temp directory on the Autonomy K2 machine on which you created the collections directory. The temp directory will be used by the K2 Index Server and Content Engine Server during operations.

   This path must be visible to both the Content Engine and the Content Search Engine servers. If the K2 Master Administration Server and Content Engine are not installed on the same machine, they both must be on a network-mounted file system.
3. Record the collections directory path in the Autonomy K2 configuration file.

Option	Description
Windows	1. Open the following K2 configuration file in a text editor: `verity_install_path\k2\common\verity.cfg` 2. Modify the next available alias settings by adding the collections path, where new collections will be written. For example, change alias6, mapping6, and dirmode6 to the following: `alias6=path1` `mapping6=C:\Collections_Directory` `dirmode6=wr` 3. Save our edits.

Related concepts

Specifying accounts
For details on accounts and required permissions, see *Plan and Prepare Your Environment for IBM FileNet P8*.

Configuring Content Engine for content-based retrieval

You must use Enterprise Manager to configure an index area and enable the content-based retrieval (CBR) feature provided by the IBM FileNet P8 Content Search Engine.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

Take the following issues into account before you configure Content Engine.

- Various server names and related ports assigned during the installation and configuration of Autonomy K2 are required during this procedure. For a record of the servers created and the ports that have been assigned, log on to the Autonomy K2 dashboard.
- If you unimport the style set, the original files are deleted from your system. In this scenario, if you want to reimport the style set, you must recover it from your installation disk.
- Where machine name variables are required, IP addresses cannot be specified. In these cases, you must enter the host name for the machine.

For more detail on content-based retrieval and Content Engine, see the IBM FileNet P8 help topic **System Administration** → **Content Engine Administration** → **Content-based retrieval** → **How to...** → **Configure CBR**.

To configure Content Engine for content-based retrieval:

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Enterprise Manager values for this task, filter by **EM: Verity Domain Configuration Tab** in the **Installation or Configuration Program** column.
2. Start Enterprise Manager and log on as the GCD Administrator.
3. Create a Verity Domain Configuration (VDC).

a. Right-click **Enterprise Manager [domain]** in the Enterprise Manager tree and select **Properties**.
b. Click the **Verity Domain Configuration** tab.
c. Enter the following K2 Master Administration Server access information:
   - Host Name - the name of the host of the K2 Master Administration Server.
   - Port - the K2 Master Administration Server port. The default port number is 9950.
   - User Domain - the authentication domain in which your K2 services are installed.
   - User Group - K2 Security Group.
   - Verity Username - K2 Security User.
   - Password - the K2 Security User password.
d. Click **Create Configuration** to create a Verity Domain Configuration object.

4. Assign a K2 Broker Server:
   a. Click the **Verity Server** tab.
   b. From the Brokers AVAILABLE pane, select the broker and click **Add** to move the server to the Brokers Selected pane.
   c. Click **OK**.

   Important: You can assign multiple Broker Servers to a K2 Administration Server, primarily for failover. If one Broker Server goes down, then K2 can switch to another. In this configuration, you must ensure that all Search Servers required to access K2 Collections (index areas) are attached to each Broker Server. A given Content Engine server does not call multiple Broker Servers or merge associated search results. See the appropriate steps of the Configure Content Search Engine task for instructions on how to create Broker Servers and assign Search Servers.
5. To assign a CBR locale to the object store for which you want to enable indexing, complete the following substeps:
   a. Right-click the object store in the left pane of Enterprise Manager and choose **Properties** from the context menu.
   b. In the Properties dialog box, click the **CBR** tab.
   c. Specify one of the following locales (which are installed by default with Autonomy K2 Content Search Engine software) in the CBR Locale box:
      - uni (multi-language and slower indexing)
      - englishv (enhanced word-stemming and faster indexing)
      - english (limited capabilities and fast indexing)

      If you click **Set to Default CBR Locale**, the CBR locale is set to *uni*.
   d. Click **Apply** or **OK**.
6. To access the Verity Locale Configuration Guide, complete the following substeps.

   Important: For information about how the K2 product uses locales and about performance and indexing options, review the Verity Locale Configuration Guide in the Autonomy-supplied documentation set.
   a. Open the Autonomy K2 Dashboard and click **Help**.

b. Click **Library** (top right of the screen) to access the Autonomy K2 product guides. Each guide is available in HTML or PDF format.

7. Create an index area.
   a. Open your completed Installation and Upgrade Worksheet file.

      Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Enterprise Manager values for this task, filter by **EM: Create an Index Area** in the **Installation or Configuration Program** column.
   b. In the Enterprise Manager tree view, expand the **Object Stores** container.
   c. Right-click the object store to which you want to add an index area and select **New** → **Index Area**.
   d. Complete the Create an Index Area wizard by using the values from your worksheet.

      For more information about creating indexes, see the IBM FileNet P8 help topic **System Administration** → **Content Engine Administration** → **Content-based retrieval** → **How to...** → **Create Verity index area**.
8. Enable CBR for one or more document class definitions:
   a. Right-click the class you want to configure, such as a document class that your site has created, in the Enterprise Manager tree and click **Properties**.
   b. Select the **CBR Enabled** check box and click **OK**.
9. Enable CBR for one or more string properties of the document classes or custom object classes that you want to use for content-based retrieval:
   a. Right-click the class and click **Properties**.
   b. Click the **Property Definitions** tab.
   c. Click the string property you want to enable for CBR indexing and click **Edit**.
   d. Check **CBR Enabled** and click **OK**.
   e. Click **OK**.
10. Repeat 5 on page 76 through 9 for each additional object store to which you want to assign a CBR locale.

“Enabling additional K2 index servers and search servers”
If you add additional K2 Index Servers or Search Servers to an existing configuration, you must enable them through Enterprise Manager to utilize them.

Enabling additional K2 index servers and search servers

If you add additional K2 Index Servers or Search Servers to an existing configuration, you must enable them through Enterprise Manager to utilize them.

1. Log on to Enterprise Manager as the GCD Administrator and expand the Enterprise Manager tree.
2. Open the Index Area folder.
3. Right-click the index area that you want to add the new services to and select *Properties* .
4. Enable the new Search Servers as follows:
   a. Click **Edit Search Servers**.
   b. In the Search Servers Available pane, highlight any servers you want to enable for this index area and click **Add** to add the server to the Search Servers Selected list.

c. Click **OK** to save the settings and enable the new servers.

5. Enable the new Index Servers as follows:
   a. Click **Edit Index Servers**.
   b. In the Index Servers Available pane, Highlight any servers you want to enable for this index area and click **Add** to add the server to the Index Servers Selected list.
   c. Click **OK** to save the settings and enable the new servers.

Verifying the Content Search Engine installation

To verify that the Content Search Engine installation and configuration succeeded, perform the following procedure.

To verify the Content Search Engine installation:

1. In Enterprise Manager, access the Root Folder and open a subfolder that contains a document. The document must contain text; it cannot be an image.
2. Right-click a document and select **All Tasks** → **Index for Content Search**.

   A Notice indicates that a content search index Job was created successfully.
3. Right-click the object store node for the document you set to index for content search and select **All Tasks** → **Index Jobs Management**.
4. In the Index Jobs Manager, check to see that the Job Status indicates the job has terminated normally.

   Depending on the size of the indexing job, it might take a few minutes for the indexing job to complete. If the Job Status indicates that the indexing is in progress, wait a few minutes to give the job time to complete. If the Job Status does not indicate progress, check the `p8_server_error.log` file on the application server.

Installing and configuring Process Engine

Installing and configuring Process Engine is a process requiring multiple steps, and the steps must be followed in sequence.

The following steps must be completed in order to install Process Engine software, configure Process Engine on the IBM FileNet P8 Platform and install the latest software updates.

1. "Installing Process Engine"
   You can install Process Engine software either interactively or silently. A number of configuration steps follow the execution of the Process Engine installation program.
2. "Installing the latest Content Engine client files on Process Engine servers" on page 86
   Installing the Content Engine Client files on all Process Engine enables communication between the Content Engine and the Process Engine. You can install these files interactively by using the installation wizard or silently by using the command line and a silent input file.
3. "Configuring Process Task Manager" on page 89
   Start the Process Task Manager and set initial configuration parameters on the Process Engine.
4. "Verifying connection to the Process Engine database" on page 90
   To verify the connection to the Process Engine database, issue the **vwcemp** command.
5. "Completing post-installation Process Engine configuration (Windows only)" on page 90
   You must enable Process Engine to use the largest available contiguous free memory area for shared memory allocations. Otherwise, at some point during normal execution, the system fails to allocate shared memory and ceases to function correctly.
6. "Installing Process Engine software updates" on page 91
   You can install software updates such as modified releases, fix packs, or interim fixes to Process Engine.

Installing Process Engine

You can install Process Engine software either interactively or silently. A number of configuration steps follow the execution of the Process Engine installation program.

You will find references to logging on as the root and fnsw users within the following procedures. For all UNIX operating systems, the root user must run in the Bourne or Korn shell and the fnsw user must run in the Korn shell.

Important: Before starting the Process Engine installation, verify that you have completed the steps in Configuring the /etc/hosts file.

1. "Verifying the Process Engine database connection" on page 80
   Verify the ability to connect to the Process Engine database. The Process Engine installation program will connect to the database during software installation.
2. "Installing Process Engine interactively" on page 81
   Use these procedures to install Process Engine using the installation wizard screens included with the installation package.

3. "Installing Process Engine silently" on page 82
   Modify the silent installation response file according to the values in the installation worksheet before installing the software.
4. "Resetting administrative user passwords" on page 83
   Process Engine installation automatically sets the passwords for several internally required local users. For Oracle and SQL Server databases, if default users and passwords were configured, Process Engine installation also creates several database users.
5. "Verifying the connection to the Process Engine database" on page 85
   Verify the ability to connect to the Process Engine database after installing the software.
6. "Completing post-installation steps on Windows platforms" on page 85
   There are additional steps required to complete installation of Process Engine on all Windows platforms.

Verifying the Process Engine database connection

Verify the ability to connect to the Process Engine database. The Process Engine installation program will connect to the database during software installation.

"Verifying the Process Engine database connection (SQL Server)"
Verify that the Microsoft SQL Server database instance used by Process Engine is accessible. You must know both the Process Engine database and filegroup names. Make whatever corrections are necessary before proceeding.

Verifying the Process Engine database connection (SQL Server)

Verify that the Microsoft SQL Server database instance used by Process Engine is accessible. You must know both the Process Engine database and filegroup names. Make whatever corrections are necessary before proceeding.

1. Log on to the Process Engine as a member of the local Administrators group or a user with equivalent permissions. The user you log on as must also be a database administrator. If the database is remote, the SQL connection must also be a trusted connection.
2. At a command prompt, enter:

   ```
   osql -E -D DSN
   ```

   where *DSN* is the ODBC data source name

   This command puts Process Engine into osql interactive mode.
3. At the osql prompt, enter:

   ```
   1> use VWdb
   2> go
   ```

   where *VWdb* is the Process Engine database name

   This command verifies that the Process Engine database has been created. If you get another prompt with no error, you are attached to that database.
4. Verify that the correct Process Engine filegroup was created. At the osql prompt, enter:

   ```
   1> select substring(groupname,1,20) from sysfilegroups where groupname=
     'defined filegroup'
   2> go
   ```

   where *defined filegroup* is the default filegroup

   A listing of the Process Engine filegroups will display, for example:

   ```
   __________
   vwdata_fg
   ```
5. Exit osql by typing **exit**.

Installing Process Engine interactively

Use these procedures to install Process Engine using the installation wizard screens included with the installation package.

Important: Before starting the Process Engine installation, verify that you have completed the steps in the To configure your `/etc/hosts` file section in the *Plan and Prepare Your Environment for IBM FileNet P8*.

"Installing the Process Engine software interactively (Windows)"
You can install Process Engine by using the Process Engine installation wizard.

Installing the Process Engine software interactively (Windows)

You can install Process Engine by using the Process Engine installation wizard.

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Process Engine values, filter by **PE Installer** in the **Installation or Configuration Program** column.
2. Log on to the Process Engine server as *fnsw*, *pe_install_user_domain*, or *pe_install_user_local*.
3. Navigate to the Process Engine software package, and start the `P8PE-4.5.1-WIN.exe` installation program. To run the Process Engine installation from disk, you must copy the installation files to a disk volume where 8.3 name generation is enabled, or if 8.3 name generation is disabled, you must copy the installation to a path that uses only short (8.3) names.

   When running from disk, either interactively or silently, be aware that the Process Engine installation program has a 64-character path limitation when the path is expressed in 8.3 format. This limitation applies to the `IMSInst` subdirectory. For example, the original path is:

   ```
   \\server08\Software\InstallationDisks\FileNet\Release P8
   4.5.1\ProcessEngine\Windows\IMSInst
   ```

   When expressed in 8.3 format the path might be:

   ```
   \\server08\Software\INSTAL~1\FileNet\RELEAS~1.0\PROCES~1\Windows\IMSInst
   ```

   This compressed path is 73 characters long, exceeding the 64-character limit.
4. Check for any `.log` files that were generated when the installation program ran. The files could be in any of the following locations, depending on whether the installation was successful and, if not, where errors occurred. Correct any errors or failures indicated before proceeding to the next step.
   - `C:\Program Files\IBM\FileNet\PE\PE451_setup.log`
   - `C:\Program Files\IBM\FileNet\PE`
   - `C:\FNSW\tmp_installer`
   - `C:\Program Files\IBM\FileNet\IS\mini_installer.log`, Windows Event logs, and log files under `\FNSW_LOC\logs`
   - For 64-bit Windows, these paths will be `C:\Program Files(x86)\..`

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Installing Process Engine silently

Modify the silent installation response file according to the values in the installation worksheet before installing the software.

Important: Before starting the Process Engine installation, verify that you have completed the steps in the To configure your /etc/hosts file section in the *Plan and Prepare Your Environment for IBM FileNet P8*.

"Installing the Process Engine software silently (Windows)"
Complete the following procedures to silently install Process Engine.

"Encrypting passwords for Process Engine" on page 83
Several passwords are required to configure Process Engine components. To accommodate your security requirements, you can encrypt these passwords before you enter them into the configuration files.

Installing the Process Engine software silently (Windows)

Complete the following procedures to silently install Process Engine.

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Process Engine values, filter by **PE Installer** in the **Installation or Configuration Program** column.
2. Log on to the Process Engine server as *fnsw*, *pe_install_user_domain*, or *pe_install_user_local*.
3. Navigate to the Process Engine software package.
4. Edit the `PE_silent_install.txt` file to reflect the appropriate responses for your installation. All passwords in the response file must be encrypted. See "Encrypting passwords for Process Engine" on page 83 for information on use of the password encryption tool.
5. Save the edited response file to your temporary directory.
6. Navigate to the temporary directory on the local disk.
7. Open a command prompt and start the installation program:
   ```
   P8PE-4.5.1-WIN.exe -silent -options PE_silent_install.txt
   ```
8. Check for any `.log` files that were generated when the installation program ran. The files could be in any of the following locations, depending on whether the installation was successful and, if not, where errors occurred. Correct any errors or failures indicated before proceeding to the next step.
   - `C:\Program Files\IBM\FileNet\PE\PE451_setup.log`
   - `C:\Program Files\IBM\FileNet\PE`
   - `C:\FNSW\tmp_installer`
   - `C:\Program Files\IBM\FileNet\IS\mini_installer.log`, Windows Event logs, and log files under `\FNSW_LOC\logs`
   - For 64-bit Windows, these paths will be `C:\Program Files(x86)\..`

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Encrypting passwords for Process Engine

Several passwords are required to configure Process Engine components. To accommodate your security requirements, you can encrypt these passwords before you enter them into the configuration files.

Ensure that Java is installed and that the location to your Java runtime environment (JRE) is in your PATH environment variable.

1. Copy the following files from the `\Tools` directory on the installation media for Process Engine software to a local drive:
   - `fnencryptutils` - an executable .jar file
   - `RunEncryptApp` - a batch file
2. Run one of the following executable files to start the password application:

Option	Description
Windows	`RunEncryptApp.bat`

3. Enter the appropriate values for the user name and password.
4. Reenter the password to confirm it.
5. Click **Generate**.
6. An encrypted password will be generated and displayed in the encrypted password field.
7. Copy and paste this password into the appropriate configuration file.

Resetting administrative user passwords

Process Engine installation automatically sets the passwords for several internally required local users. For Oracle and SQL Server databases, if default users and passwords were configured, Process Engine installation also creates several database users.

The Process Engine installation program creates an encrypted version of the passwords for the *f_sw* and *f_maint* users. The encrypted version of the password must match the database or operating system passwords for these users. If the passwords do not match, Process Engine will fail to connect to the database. If these users are created with default passwords, it is a best practice to reset the passwords for these users.

For the *fnsw* operating system user, on a Windows server, the password entered during Process Engine installation must match the operating system password. If these passwords do not match, Process Engine services on the Windows server will not start.

The following table lists the users, the level of system access each user has, and the tool used to change the password.

User Name	User Type	Description	How to modify
f_sw	• Database (Oracle, SQL) • OS user for DB2®	Has privileges only for database objects created by Process Engine. Used as the Process Engine runtime user.	Execute `Xdbconnect`.
f_maint	• Database (Oracle, SQL) • OS user for DB2	Has DBA privileges. Used for RDBMS maintenance.	Execute `Xdbconnect`.
fnsw	Operating System	Primary Process Engine user. Used to execute Process Engine software and services.	The *fnsw* user is configured by the installation program to start the following Windows services: • IMS™ ControlService • Process Engine Services Manager If you change the password for the *fnsw* user, you must also use the Windows Services tool to update the password on the Log On tab for these services. Process Engine activity will cease if the *fnsw* user's password expires.

"Setting the f_maint and f_sw passwords (Oracle and Microsoft SQL Server)"
For added security, Process Engine stores an encrypted version of the passwords for the f_sw and f_maint users, or their aliases, in a file called `rdbup.bin`. This is in addition to passwords for these users in the Oracle or Microsoft SQL Server database. The encrypted password and the database user's passwords must match.

Setting the f_maint and f_sw passwords (Oracle and Microsoft SQL Server)

For added security, Process Engine stores an encrypted version of the passwords for the f_sw and f_maint users, or their aliases, in a file called `rdbup.bin`. This is in addition to passwords for these users in the Oracle or Microsoft SQL Server database. The encrypted password and the database user's passwords must match.

To verify that the passwords match between the encrypted file and the Oracle or SQL Server database, use the following procedure to start the Xdbconnect utility. Xdbconnect works only if the passwords in the encrypted file and the database match.

You must change the passwords for the f_maint and f_sw users. For Oracle and Microsoft SQL Server databases, both the encrypted file and the database passwords are updated.

On UNIX, several Process Engine utilities are configured with setuid *fnsw.* (or its alias), and will therefore run with that user's X Window settings, regardless of which user is currently logged on.

1. Log on as the fnsw user.
2. Start the Database Server Connect application by running the following command: `Xdbconnect -r`
3. Change the primary password for the users f_sw and f_maint to match the database password.
4. Exit the application.

Verifying the connection to the Process Engine database

Verify the ability to connect to the Process Engine database after installing the software.

Restart the software and initiate a connection to the Process Engine database. This connection will use the database runtime user name and password as defined when Process Engine was installed and configured. This will verify the ability to use that name and password to connect to the database.

1. Open a command window and restart the Process Engine software by executing the following commands at a command prompt:
   ```
   initfnsw -y stop
   killfnsw -DAyS
   initfnsw -y start
   ```
2. Initiate the connection to the database. At a command prompt, execute:
   ```
   vwcemp -l
   ```
   where `-l` lists the current configuration information for the Content Engine connection

If the connection is successful, you will see a message indicating that the Content Engine has not been configured yet. Because there are no security settings configured, the above command should return a message similar to `The Process Engine's connection to the Content Engine has not been configured....`

Unsuccessful connection to the database will return an exception.

If the connection is not successful, there could be a mismatch between the password entered for the f_sw user during Process Engine installation and the password created by execution of the SQL scripts (Oracle) or for the operating system runtime user (DB2).

To determine if a failure to connect to the database is due to a password mismatch, use the steps in:

- “Setting the f_maint and f_sw passwords (Oracle and Microsoft SQL Server)” on page 84

Completing post-installation steps on Windows platforms

There are additional steps required to complete installation of Process Engine on all Windows platforms.

“Modifying the network configuration (Windows 2008)” on page 86
Create a touch file to force FileNet Image Services to use the IPv4 protocol.

"Modifying the integrity level for executables (Windows 2008)"
Modify the mandatory integrity level of the FileNet Image Services executables to **High**.

Modifying the network configuration (Windows 2008)

Create a touch file to force FileNet Image Services to use the IPv4 protocol.

Windows 2008 supports both IPv6 and IPv4 protocols. By default, the preferred protocol is IPv6. To use the IPv4 protocol, create an empty file in the \fnsw_loc\sd directory. If the file is present, the Process Engine software will override the Windows default and use the IPv4 protocol.

1. Navigate to the `C:\FNSW_LOC\sd` directory.
2. Using an editor such as Notepad, create an empty file and save it as a file named `ipv4`. Verify that there is no file extension on the file.

Modifying the integrity level for executables (Windows 2008)

Modify the mandatory integrity level of the FileNet Image Services executables to **High**.

Complete the following procedure:

1. Open a command prompt with Administrative privileges.
2. Change the current directory to *installLocation*`\fnsw\bin`.
3. Execute the following command:

```
icacls *.exe /setintegritylevel H
```

Installing the latest Content Engine client files on Process Engine servers

Installing the Content Engine Client files on all Process Engine enables communication between the Content Engine and the Process Engine. You can install these files interactively by using the installation wizard or silently by using the command line and a silent input file.

"Installing the latest Content Engine client files on Process Engine servers interactively"
The installation wizard provides an interactive way to install the Content Engine Client files. You can use the values from your worksheet to fill in the required value for each field on the wizard screens.

"Installing the latest Content Engine client files on Process Engine servers silently" on page 87
The command line method provides a way to silently install the Content Engine Client files. You can use the values in your installation worksheet to edit the silent input text file before you run the installation.

Related concepts

Installation and Upgrade Worksheet
For more information about Content Engine parameter values, see *Plan and Prepare Your Environment for IBM FileNet P8*.

Installing the latest Content Engine client files on Process Engine servers interactively

The installation wizard provides an interactive way to install the Content Engine Client files. You can use the values from your worksheet to fill in the required value for each field on the wizard screens.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

To install the Content Engine Client files:

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Content Engine values, filter by **CE Client Installer** in the **Installation or Configuration Program** column.
2. To download the latest software updates, and to determine which of these updates might be required for use with other components and expansion products, contact your service representative.
3. On the machine where Process Engine is installed, log on as fnsw, with these permissions:
   - Read and write permission to a temporary directory, such as *temp* (Windows) or *tmp* (UNIX), on the machine where Process Engine is installed
   - Execute permission on the Content Engine Client install software

   The default password for fnsw was BPMtemp1pzwd.
4. Verify that there is a current backup of Process Engine.
5. Copy the Content Engine Client installation software from the Content Engine installation software to the temporary directory. The version of the client installation software must match the version of Content Engine.
6. Expand the compressed Content Engine Client installation software file in the temporary directory.
7. Access the IBM FileNet Content Engine Client update software in the temporary directory.
8. Run the following command:

Operating System	Install Program
Windows	P8CE-CLIENT-4.5.1-WIN.EXE

9. Complete the installation program wizard by using the values from your worksheet.
10. When the installation completes, check the Content Engine Client log file for errors. The path to the log file depends on the type of operating system on the machine where you installed the Content Engine Client files:

Operating System	Path to Log File
Windows	C:\Program Files\IBM\FileNet\CEClient\ceclient_install_log_4_5_1.txt

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Installing the latest Content Engine client files on Process Engine servers silently

The command line method provides a way to silently install the Content Engine Client files. You can use the values in your installation worksheet to edit the silent input text file before you run the installation.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

To install the Content Engine Client files:

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Content Engine values, filter by **CE Client Installer** in the **Installation or Configuration Program** column.
2. To download the latest software updates, and to determine which of these updates might be required for use with other components and expansion products, contact your service representative.
3. On the machine where Process Engine is installed, log on as fnsw, with these permissions:
   - Read and write permission to a temporary directory, such as *temp* (Windows) or *tmp* (UNIX), on the machine where Process Engine is installed
   - Execute permission on the Content Engine Client install software

   The default password for fnsw was BPMtemp1pzwd.
4. Verify that there is a current backup of Process Engine.
5. Copy the Content Engine Client installation software from the Content Engine installation software to the temporary directory. The version of the client installation software must match the version of Content Engine.
6. Expand the compressed Content Engine Client installation software file in the temporary directory.
7. Make a backup copy of the `CEClient_silent_install.txt` input file in the temporary directory.
8. Open the silent input file in a text editor. Follow the instructions in the silent input file to edit the file to reflect the appropriate responses for your update. Use the values from your worksheet.
9. Navigate to the temporary directory path containing the Content Engine Client installation program, and run the following command, where:

   path is the path that contains the installation program.

Operating System	Install Program
Windows	`P8CE-CLIENT-4.5.1-WIN.EXE -f` *path*`\CEClient.Windows\CEClient_silent_install.txt -i silent`

10. When the installation completes, check the Content Engine Client log file for errors. The path to the log file depends on the type of operating system on the machine where you installed the Content Engine Client files:

Operating System	Path to Log File
Windows	`C:\Program Files\IBM\FileNet\CEClient\ceclient_install_log_4_5_1.txt`

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Configuring Process Task Manager

Start the Process Task Manager and set initial configuration parameters on the Process Engine.

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view onlyProcess Engine values, filter by **Process Task Manager** in the **Installation or Configuration Program** column.
2. Log on to the Process Engine server as *fnsw*.
3. Start the Process Task Manager, as follows:

Option	Description
Windows	Select **Start** → **Programs** → **IBM FileNet P8 Platform** → **Process Engine** → **Process Task Manager**.

4. Right-click your Process Engine server in the left-hand pane and start the software if it is not already running.
5. Select the Process Engine in the feature pane and click the **Security** tab to configure the Security settings.

   Provide the service username, entered as a short name, the Content Engine URI, Administrator Group, and Configuration Group identified on your installation worksheet. See the IBM FileNet P8 help topic *System Administration* > *Enterprise-wide Administration* > *Process Task Manager* > *Process Engine* > *Configure Process Engine* > *Security* for details on the user and groups.
6. Click the **General** tab and make sure all settings are correct. Click **Apply** if any changes had been made.

   After all parameters have been entered, click **Apply** and restart the Process Service when prompted. If errors are returned, additional information is available in the following file. If no errors are returned, the file will not exist.

Option	Description
Windows	`\fnsw_loc\logs\TM_daemon\PEDirectoryServerConnectionDebug.txt`

7. Right-click on the **Regions** folder, in the left-hand pane and select **New** to create a new region. See the IBM FileNet P8 help topic *System Administration* > *Isolated Regions* > *Concepts* for information on isolated regions.
8. Select the **General** subtab and fill in a region number. Use any number between 1 and 999 that has not already been used.
9. Indicate whether region recovery will be enabled for this region. If you will be using region recovery, identify the tablespaces or filegroups to be used by the region.
10. Click the **Security** subtab to set a region password.

    Important: You will use this password later when you create a Process Engine Region in "Creating a Process Engine isolated region" on page 111.

11. After all parameters have been entered, click **OK**.
12. When prompted by Process Task Manager to start the software, click **OK**. Process Task Manager will start the software automatically by executing:
    ```
    initfnsw -y restart
    ```
13. If the Process Engine server will be configured to run both IPv4 and IPv6 protocols, restart the Process Task Manager and complete the following sub-steps.
    a. Select the Process Engine node.
    a. On the Advanced page, add the vworbbroker.endPoint property:
    ```
    vworbbroker.endPoint = iiop://1.2@pe_server_ipv6_address
    :port#,pe_server_ipv4_address:port#
    /hostname_in_ior=loadbalancer_virtual_name
    ```
    Where:
    - `pe_server_ipv6_address` is the IPv6 address of the Process Engine Server. The format entered in the string for an IPv6 address must have the IPv6 address enclosed in square brackets '[' ']' For example: `[2007::9:181:124:200]`
    - `pe_server_ipv4_address` is the address of the Process Engine server in IPv4 format.
    - `loadbalancer_virtual_name` is the name of the load balancer, used by the clients with the Process Engine server.
    - The address and port pairs are separated by a comma.

Verifying connection to the Process Engine database

To verify the connection to the Process Engine database, issue the **vwcemp** command.

Check the database connection from Process Engine by executing the following from a command prompt. This will also verify that security settings were saved to the database.

```
vwcemp -l
```

If the security settings were saved, the above command will return the information you entered in the Process Task Manager.

If there are no security settings configured, the above command should return a message similar to "....no object service is configured...."

Completing post-installation Process Engine configuration (Windows only)

You must enable Process Engine to use the largest available contiguous free memory area for shared memory allocations. Otherwise, at some point during normal execution, the system fails to allocate shared memory and ceases to function correctly.

To configure contiguous free memory for Process Engine:

1. Log on as the fnsw (or alias) user.
2. Restart the Process Engine software. At a Windows command prompt, enter:
   ```
   initfnsw -y restart
   ```

3. Find the largest available shared memory block and create an executable file with a `.reg` file extension. That file will be run to update the registry to create a new DWORD value.
   a. Create the file by entering the following at a Windows command prompt: `set_shm_address -r` *`shmaddress`*`.reg` where:
      - -r indicates an input file
      - *`shmaddress`*`.reg` is the name of the file that contains registry information. This file must have the `.reg` file extension.
   b. Verify the contents of the output file. The following are examples of the file content.

      32-bit Windows
      ```
      [HKEY_LOCAL_MACHINE\SOFTWARE\FileNET\IMS\CurrentVersion]
      "StartShmAddress"=dword:12230000
      ```

      64-bit Windows
      ```
      [HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\FileNET\IMS\CurrentVersion]
      "StartShmAddress"=dword:12230000
      ```
4. Run the executable file to update the registry by typing the following at a Windows command: *`shmaddress`*`.reg` *shmaddress*.reg is the file you just created.
5. Restart the Process Engine software. At a Windows command prompt, enter: `initfnsw -y restart`
6. Verify the setting that you just applied for the shared memory address by entering the following command at a command prompt: `set_shm_address -v`

Installing Process Engine software updates

You can install software updates such as modified releases, fix packs, or interim fixes to Process Engine.

To install the Process Engine software updates:
1. Contact your service representative to obtain the latest Process Engine software updates, and to determine whether additional interim fixes are needed.
2. Open the readmes for the Process Engine software updates and perform the installation procedures in the readmes on the Process Engine.

Installing and configuring Application Engine

Application Engine provides a client application called Workplace that you can use to access the information managed by Content Engine. After you install the server, you must also configure your application server to work with Application Engine, and deploy the application.

1. "Installing Application Engine"
   To enable the web client application, Workplace, install Application Engine on a supported web application server. To complete the installation, provide the necessary parameter values to enable Workplace to access the information that is managed by Content Engine.
2. "Installing Application Engine software updates" on page 96
   If any required fix packs and interim fixes exist for Application Engine, you must install these software updates.
3. "Installing the latest Content Engine Client files on Application Engine servers" on page 96
   The Content Engine Client software enables communication between the Application Engine and the Content Engine. Install the latest release or fix pack version of the Content Engine Client files on all Application Engine servers.
4. "Installing the latest Process Engine Client files on Application Engine servers" on page 98
   The Process Engine Client software enables communication between the Application Engine and the Process Engine. Install the Process Engine Client files on all Application Engine servers.
5. "Configuring Application Engine on the application server" on page 100
   After you complete the Application Engine installation, you must configure Application Engine files and your application sever to enable communication between Application Engine and Content Engine. You can choose the appropriate configuration tasks for your application server type and environment.
6. "Deploying Application Engine on the application server" on page 105
   After you install and configure Application Engine, you must deploy your client application, Workplace, on your application server. You might be required to re-create the WAR or WAR and EAR files before you deploy.
7. "Setting Application Engine bootstrap preferences" on page 107
   By successfully signing in to Workplace and saving the bootstrap preferences, you verify basic Application Engine functionality such as user authentication as well as communication and storing of data in Content Engine

Installing Application Engine

To enable the web client application, Workplace, install Application Engine on a supported web application server. To complete the installation, provide the necessary parameter values to enable Workplace to access the information that is managed by Content Engine.

- If you plan to install and use the IBM FileNet Workplace XT product, you do not need to install Application Engine.
- To ensure proper functionality and performance, only install one instance of Application Engine per application server (or virtual machine or WebSphere

Application Server LPAR). You can, however, deploy multiple instances of a single Application Engine version per application server.

- Before logging on to Workplace for the first time, at least one object store must exist on the Content Engine to hold the site preferences. See "Creating the initial object store" on page 59 for more information.
- You can install a new Application Engine 4.0.2 server within an existing 4.0 IBM FileNet P8 environment if your Content Engine is at version 401.006 or later and your Process Engine is at 403-000.001 or later. The Content Engine and Process Engine client files you install on the Application Engine must match the version of your Content Engine and Process Engine.

"Installing Application Engine interactively"
You can use the installation wizard to install Application Engine. To complete the installation, provide the necessary parameter values to enable the Application Engine client application, Workplace, to access the information that is managed by Content Engine.

"Installing Application Engine silently" on page 95
You can include the parameters for your Application Engine installation in a silent input file, and then run the installation from a command line.

Installing Application Engine interactively

You can use the installation wizard to install Application Engine. To complete the installation, provide the necessary parameter values to enable the Application Engine client application, Workplace, to access the information that is managed by Content Engine.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

To install the Application Engine software interactively:

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Content Engine values, filter by **AE Installer** in the **Installation or Configuration Program** column.
2. Log on to the application server, as appropriate for your operating system:

Option	Description
Windows	Log on as a member of the local Administrators group or a user with equivalent permissions.

3. Access the IBM FileNet P8 Application Engine 4.0.2.0 installation software.
4. Start the installation program.

Platform	Command
Windows	`P8AE-4.0.2.0-WIN.exe`

5. Complete the Application Engine installer screens by using the values from your worksheet.
6. View the `app_engine_install_log_4_0_2.txt` file, located in *`AE_install_path`*`/AE/Logs`.

   Verify that no errors or failures were logged. Look for the ERROR designation at the start of a line. Correct any errors before you proceed.

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Installing Application Engine silently

You can include the parameters for your Application Engine installation in a silent input file, and then run the installation from a command line.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

To install the Application Engine software silently:

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Content Engine values, filter by **AE Installer** in the **Installation or Configuration Program** column.
2. Log on to the application server, as appropriate for your operating system:

Option	Description
Windows	Log on as a member of the local Administrators group or a user with equivalent permissions.

3. Locate the IBM FileNet P8 Application Engine 4.0.2 installation software package, and copy the appropriate `AE_silent_input.txt` file to a local directory.
4. Follow the instructions in the silent input file to edit the file to reflect the appropriate responses for your installation. Use the values in your worksheet.

   Important: If you are modifying the silent input file to perform an upgrade from Application Engine 3.5 to Application Engine 4.0.2 you must modify all instances of *AE_install_path* in the script as follows:

   Windows

   Change `..\FileNet\AE` to `..\FileNet`

   Change `..\\Filenet\\AE` to `..\\FileNet`
5. From a command prompt, navigate to and run the installer.

   Windows
   ```
   P8AE-4.0.2.0-Win.exe -options
   path_to_edited_input_file\AE_silent_input.txt -silent
   ```
6. View the `app_engine_install_log_4_0_2.txt` file, located in *`AE_install_path`*`/AE/Logs`.

   Verify that no errors or failures were logged. Look for the ERROR designation at the start of a line. Correct any errors before you proceed.

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Installing Application Engine software updates

If any required fix packs and interim fixes exist for Application Engine, you must install these software updates.

To install the Application Engine software updates:

1. To download the latest software updates, and to determine which of these updates might be required for use with other components and expansion products, contact your support representative.
2. Open the readmes for any subsequent fix packs or interim fixes (typically optional) and perform the installation procedures provided.

Installing the latest Content Engine Client files on Application Engine servers

The Content Engine Client software enables communication between the Application Engine and the Content Engine. Install the latest release or fix pack version of the Content Engine Client files on all Application Engine servers.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

"Installing the latest Content Engine Client files on Application Engine servers interactively"
The installation wizard provides an interactive way to install the Content Engine Client files. You can use the values from your worksheet to fill in the required value for each field on the wizard screens.

"Installing the latest Content Engine Client files on Application Engine servers silently" on page 97
The command-line method provides a way to silently install the Content Engine Client files. You can use the values in your installation worksheet to edit the silent input text file before you run the installation.

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Installing the latest Content Engine Client files on Application Engine servers interactively

The installation wizard provides an interactive way to install the Content Engine Client files. You can use the values from your worksheet to fill in the required value for each field on the wizard screens.

To install the Content Engine Client files interactively:

1. Open your completed Installation and Upgrade Worksheet file.

Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Content Engine values, filter by **CE Client Installer** in the **Installation or Configuration Program** column.

2. On the machine where Application Engine is installed, log on as any user who has the following permissions:
   - Read and write permission to a temporary directory, such as `temp` (Windows) or `tmp` (UNIX), on the machine where Application Engine is installed
   - Execute permission on the Content Engine Client install software
3. Copy the Content Engine Client installation software from the Content Engine installation software to the temporary directory. The version of the client installation software must match the version of Content Engine.
4. Expand the compressed Content Engine Client installation software file in the temporary directory.
5. Access the IBM FileNet Content Engine Client update software in the temporary directory.
6. Run the following command:

Operating System	Install Program
Windows	`P8CE-CLIENT-4.5.1-WIN.EXE`

7. Complete the installation screens by using the values from your worksheet.
8. Complete the installation program wizard by using the values from your worksheet.
9. When the installation completes, check the Content Engine Client log file for errors. The path to the log file depends on the type of operating system on the machine where you installed the Content Engine Client files:

Operating System	Path to Log File
Windows	`C:\Program Files\IBM\FileNet\CEClient\ceclient_install_log_4_5_1.txt`

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Installing the latest Content Engine Client files on Application Engine servers silently

The command-line method provides a way to silently install the Content Engine Client files. You can use the values in your installation worksheet to edit the silent input text file before you run the installation.

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Content Engine values, filter by **CE Client Installer** in the **Installation or Configuration Program** column.
2. On the machine where Application Engine is installed, log on as any user who has the following permissions:
   - Read and write permission to a temporary directory, such as `temp` (Windows) or `tmp` (UNIX), on the machine where Application Engine is installed
   - Execute permission on the Content Engine Client install software

3. Copy the Content Engine Client installation software from the Content Engine installation software to the temporary directory. The version of the client installation software must match the version of Content Engine.
4. Expand the compressed Content Engine Client installation software file in the temporary directory.
5. Make a backup copy of the `CEClient_silent_install.txt` input file in the temporary directory.
6. Open the silent input file in a text editor. Follow the instructions in the silent input file to edit the file to reflect the appropriate responses for your update. Use the values from your worksheet.
7. Navigate to the temporary directory path containing the Content Engine Client installation program, and run the following command, where:

   path is the path that contains the installation program.

Operating System	Install Program
Windows	`P8CE-CLIENT-4.5.1-WIN.EXE -f` *path*`\CEClient.Windows\CEClient_silent_install.txt -i silent`

8. When the installation completes, check the Content Engine Client log file for errors. The path to the log file depends on the type of operating system on the machine where you installed the Content Engine Client files:

Operating System	Path to Log File
Windows	`C:\Program Files\IBM\FileNet\CEClient\ceclient_install_log_4_5_1.txt`

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Installing the latest Process Engine Client files on Application Engine servers

The Process Engine Client software enables communication between the Application Engine and the Process Engine. Install the Process Engine Client files on all Application Engine servers.

"Installing the latest Process Engine Client files interactively"
The installation wizard provides an interactive way to install the Process Engine Client files. You can use the values you collected on your worksheet to fill in the required value for each field on the wizard screens.

"Installing the latest Process Engine Client files silently" on page 99
You can install the Process Engine Client software on the Application Engine by using a silent input text file and running the installation program from the command line. Use the values in your installation worksheet to edit the silent input text file before you run the installation.

Installing the latest Process Engine Client files interactively

The installation wizard provides an interactive way to install the Process Engine Client files. You can use the values you collected on your worksheet to fill in the required value for each field on the wizard screens.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

To install the Process Engine Client files:

1. On the machine where Application Engine is to be deployed, log on as any user who has the following permissions:
   - Read and write permission to a temporary directory, such as `temp` (Windows) or `tmp` (UNIX), on the machine where Application Engine is installed.
   - Execute permission on the Process Engine Client install software.
2. Copy the Process Engine Client install software from the Process Engine installation software to the temporary directory. The version of the install software must match the version of Process Engine.
3. Expand the compressed Process Engine Client install software file within the temporary directory. The `jre.tar` file that is packaged with the Process Engine Client installer must be in the same directory as the Process Engine Client installer when the installer is run. The expanded install software contains the Process Engine Client install program specific to the operating system on the machine where Application Engine is deployed.
4. Start the installation program by running the following command:

Operating System	Install Program
Windows	P8PE-CLIENT-*PE_version*-WIN.EXE

5. Complete the installation screens by using the values from your worksheet.
6. If the Process Engine is configured to use the IPv6 network protocol, locate and edit the `taskman.properties` file and add the following lines to that file:

```
-Djava.net.preferIPv6Addresses=true
-Djava.net.preferIPv4Stack=false
```

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Installing the latest Process Engine Client files silently

You can install the Process Engine Client software on the Application Engine by using a silent input text file and running the installation program from the command line. Use the values in your installation worksheet to edit the silent input text file before you run the installation.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

To install the Process Engine Client files:

1. On the machine where Application Engine is to be deployed, log on as any user who has the following permissions:
   - Read and write permission to a temporary directory, such as `temp` (Windows) or `tmp` (UNIX), on the machine where Application Engine is installed.
   - Execute permission on the Process Engine Client install software.

2. Copy the Process Engine Client install software from the Process Engine installation software to the temporary directory. The version of the install software must match the version of Process Engine.
3. Expand the compressed Process Engine Client install software file within the temporary directory. The jre.tar file that is packaged with the Process Engine Client installer must be in the same directory as the Process Engine Client installer when the installer is run. The expanded install software contains the Process Engine Client install program specific to the operating system on the machine where Application Engine is deployed.
4. In the expanded installation software, open the file `PEClient_silent_install.txt` and change the `Variable_CheckboxAE` line to:

```
-V Variable_CheckboxAE="true"
```

5. Start the installation program by running the following command:

Operating System	Install Program
Windows	`P8PE-CLIENT-`*`PE_version`*`-WIN.EXE -silent -options "PEClient_silent_install.txt"`

6. If the Process Engine is configured to use the IPv6 network protocol, locate and edit the `taskman.properties` file and add the following lines to that file:

```
-Djava.net.preferIPv6Addresses=true
-Djava.net.preferIPv4Stack=false
```

Related concepts

Installation and upgrade worksheet
For more information about the installation and upgrade worksheet, see the worksheet topics in *Plan and Prepare Your Environment for IBM FileNet P8*.

Configuring Application Engine on the application server

After you complete the Application Engine installation, you must configure Application Engine files and your application sever to enable communication between Application Engine and Content Engine. You can choose the appropriate configuration tasks for your application server type and environment.

"Configuring Application Engine on WebLogic Server"
After you install the Application Engine server, you must configure WebLogic Server to work with Application Engine. You can also configure changes for optional modes like SSO.

Configuring Application Engine on WebLogic Server

After you install the Application Engine server, you must configure WebLogic Server to work with Application Engine. You can also configure changes for optional modes like SSO.

"Editing web.xml for SSO (optional)" on page 101
You can use SSO with a proxy server in your Application Engine environment. To enable this optional approach, edit the `web.xml` file on the WebLogic Server.

"Configuring the application server files" on page 102
As part of the configuration of Application Engine on WebLogic Server, configure the application server files to set up JAAS login information for authentication and memory settings for resource usage.

"Enabling communication between Content Engine and Application Engine (WebLogic Server)" on page 104
To enable communication between Application Engine and Content Engine, you must configure settings on the WebLogic Server.

"Enabling passing user credentials to client applications (WebLogic Server 9.2 only)" on page 105
Some client applications such as WebDAV and Application Integration can require passing user credentials with Application Engine. Enable this communication by editing the config.xml file on the WebLogic Server.

Editing web.xml for SSO (optional)

You can use SSO with a proxy server in your Application Engine environment. To enable this optional approach, edit the web.xml file on the WebLogic Server.

To edit web.xml for SSO

1. Make a backup copy of web.xml.

   AE_install_path/Workplace/WEB-INF/web.xml
2. Open web.xml for editing.
3. Set the parameter perimeterChallengeMode to true:

```
<init-param>
<param-name>perimeterChallengeMode</param-name>
<param-value>true</param-value>
</init-param>
```

4. As needed, set the *ssoProxyContextPath*, *ssoProxyHost*, *ssoProxyPort*, and *ssoProxySSLPort*.

   These parameter values are used to modify one or more elements of the native URL that Workplace sees on a request. Wherever the value of an SSO proxy host element in the URL request is different from the equivalent information for the host where Workplace is deployed, then you must set the corresponding sso* parameter for that element in the URL to the value for the SSO proxy host.

```
<init-param>
<param-name>ssoProxyContextPath</param-name>
<param-value></param-value>
</init-param>
<init-param>
<param-name>ssoProxyHost</param-name>
<param-value></param-value>
</init-param>
<init-param>
<param-name>ssoProxyPort</param-name>
<param-value></param-value>
</init-param>
<init-param>
<param-name>ssoProxySSLPort</param-name>
<param-value></param-value>
</init-param>
```

   In general, configure the <init-param> parameters as follows:

   ssoProxyContextPath

   Set the value to the context path of the SSO proxy host URL. This value is the path portion of the URL that appears after the server name, and which represents top-level access to the Workplace application.

   For example, if the Workplace deployment host URL is http://deploy_server:2809/Workplace and the SSO proxy host URL is http://sso_proxy_server.domain.com/fn/Workplace , then use the following value:

```
<param-name>ssoProxyContextPath</param-name>
<param-value>/fn/Workplace</param-value>
```

ssoProxyHost

Set the value to the SSO proxy host server name. Typically, this is a full domain-qualified host name.

For example, if the host URL where Workplace is deployed is `http://deploy_server/Workplace` and the corresponding SSO proxy host URL is `http://sso_proxy_server/Workplace`, then use the following value:

```
<param-name>ssoProxyHost</param-name>
<param-value>sso_proxy_server</param-value>
```

ssoProxyPort

Set the value to the http port on the SSO proxy host.

For example:

```
<param-name>ssoProxyPort</param-name>
<param-value>80</param-value>
```

ssoProxySSLPort

Set the value to the https port on the SSO proxy host, if defined or used to access Workplace pages.

For example:

```
<param-name>ssoProxySSLPort</param-name>
<param-value>443</param-value>
```

5. Save your changes to `web.xml` and close the file.

Configuring the application server files

As part of the configuration of Application Engine on WebLogic Server, configure the application server files to set up JAAS login information for authentication and memory settings for resource usage.

To modify the application server files:

1. Stop the WebLogic Server if it is running.
2. Make a backup copy of the `setDomainEnv` file.

   For Windows, back up `setDomainEnv.cmd`.
3. Edit the MEM_ARGS variable.

   Adjusting this setting prevents the application server from running out of memory, a condition in which users would not be able to log in to Workplace.

   If the MEM_ARGS variable does not exist, add it to the startup script.
   - For all systems except those using JRockit JAVA.

     Append the following to the MEM_ARGS variable:

     ```
     -XX:MaxPermSize= size m
     ```

     where *size* is the value, in MB, of the **MaxPermSize**.

     Refer to your application server vendor recommendation for Initial and Maximum heap size values. For IBM specific recommendations, see the *IBM FileNet P8 Performance Tuning Guide*.
   - For systems using JRockit JAVA.

     Append the following to the MEM_ARGS variable:

     ```
     -Xgc:gencon
     ```
4. If your application server uses the IBM JVM, edit the JAVA_OPTIONS variable to improve performance.

   Windows

Immediately before the following line in the `setDomainEnv` file

```
set SAVE_JAVA_OPTIONS=%JAVA_OPTIONS%
```

insert this line (no carriage return):

```
set JAVA_OPTIONS=%JAVA_OPTIONS% -Dprogram.name=%PROGNAME%
 -Dfilenet.pe.peorb.pool.min=2 -Dfilenet.pe.peorb.pool.max=5
```

5. Configure JAAS login.

   Add one of the following right after the classpath entry for WebLogic Server.

   Important: Enter the jaas_login entry as a single line without line breaks. Do not copy and paste the text from this guide because hidden formatting can cause problems with the entry. Instead, type the entry into the script.

   Tip: Your path might be slightly different depending on the version of your client installations, or whether you have chosen a custom path for installation. Verify the location of the file before you enter the path.

   Windows

   ```
   @REM Jaas Login configurationsetting
   set JAAS_LOGIN=%JAAS_LOGIN% -Djava.security.auth.login.config=
   "AE_install_path\CE_API\config\jaas.conf.WebLogic"
   ```

6. Make a backup copy of the application server startup script.

   For Windows, back up `startWebLogic.cmd`.

   If you are not using a WebLogic domain, back up these files:

   For Windows, back up `startWLS.cmd`

7. Add the **%JAAS_LOGIN%** section to the application server startup script as indicated in the following examples.

   Windows - in the WLS_REDIRECT_LOG settings

   ```
   If "%WLS_REDIRECT_LOG%"==""(
   echo Starting WLS with line:
   echo %JAVA_HOME%\bin\java %JAVA_VM% %MEM_ARGS% %JAVA_OPTIONS%
   %JAAS_LOGIN% -Dweblogic.Name=%SERVER_NAME%
   -Djava.security.policy=%WL_HOME%\server\lib\weblogic.policy
   %PROXY_SETTINGS% %SERVER_CLASS% %JAVA_HOME%\bin\java %JAVA_VM%
   %MEM_ARGS% %JAVA_OPTIONS% %JAAS_LOGIN%
   -Dweblogic.Name=%SERVER_NAME%
   -Dweblogic.management.username=%WLS_USER%
   -Dweblogic.management.password=%WLS_PW%
   -Djava.security.policy=%WL_HOME%\server\lib\weblogic.policy
   %PROXY_SETTINGS% %SERVER_CLASS%
   ) else (
   echo Redirecting output from WLS window to %WLS_REDIRECT_LOG%
   %JAVA_HOME%\bin\java %JAVA_VM% %MEM_ARGS% %JAVA_OPTIONS%
   %JAAS_LOGIN% -Dweblogic.Name=%SERVER_NAME%
   -Dweblogic.management.username=%WLS_USER%
   -Dweblogic.management.password=%WLS_PW%
   -Djava.security.policy=%WL_HOME%\server\lib\weblogic.policy
   %PROXY_SETTINGS% %SERVER_CLASS% >"%WLS_REDIRECT_LOG%" 2>&1
   )
   ```

8. Save and close the application server startup script.

Related information

Product documentation for IBM FileNet P8 Platform
Download the IBM FIleNet P8 Performance Tuning Guide, as well as PDF's of the rest of the IBM FileNet P8 Platform documentation.

Enabling communication between Content Engine and Application Engine (WebLogic Server)

To enable communication between Application Engine and Content Engine, you must configure settings on the WebLogic Server.

To configure Application Engine:

1. (If you selected Container-Managed Authentication during the installation) Enable trust between WebLogic domains for the Content Engine domain and the Application Engine domain.

   Do the following on both the Content Engine application server and the Application Engine application server.

   a. In the WebLogic Administration Console, in the security settings, enter a password for the domain. You must enter the same password for both the Content Engine domain and Application Engine domain.
   b. Save your changes.
   c. Restart the server if needed.
   d. Repeat this procedure in each domain for which you want to enable trust.
2. (If you selected Container-Managed Authentication during the installation) Configure LDAP settings on Application Engine to exactly match the Content Engine settings.

   a. See your Content Engine installation worksheet items and the Administration Console settings for Compatibility Security > Realms for Authentication Provider, users, and groups on Content Engine.

      Configure the LDAP provider to exactly match the settings from the Content Engine server:

      - Group Base DN
      - User Name Attribute
      - Port
      - User Base DN
      - Principal
      - Credential
      - Confirm Credential
      - Host
      - User From Name Filter
      - Group From Name Filter
   b. Restart WebLogic.
3. Set permissions for the user running the application server.

   If the user that will be running the application server is different from the user that installed Application Engine, you must give the user read/write permissions on the folder where you installed Application Engine (*AE_install_path*).

Enabling passing user credentials to client applications (WebLogic Server 9.2 only)

Some client applications such as WebDAV and Application Integration can require passing user credentials with Application Engine. Enable this communication by editing the `config.xml` file on the WebLogic Server.

Important: If you do not change `config.xml`, then users are prompted to enter their user name and password to complete any client operations, such as adding a document.

To enable passing user credentials:

1. Stop the WebLogic server.
2. Make a backup copy of `config.xml` located in deployment directory.

   For example: `BEA_home/bea/user_projects/domains/`*`domain_name`*`/config/config.xml`
3. Edit `config.xml`.

   Important: The `enforce-valid-basic-auth-credentials` entry must be entered as a single line without line breaks.

   a. Locate the `<security-configuration>` section and add the following line to the end of the section, just before the `</security-configuration>` tag:

      ```
      <enforce-valid-basic-auth-credentials>false
      </enforce-valid-basic-auth-credentials>
      ```

   b. Save your changes to `config.xml` and close the file.
4. Restart WebLogic.

Deploying Application Engine on the application server

After you install and configure Application Engine, you must deploy your client application, Workplace, on your application server. You might be required to re-create the WAR or WAR and EAR files before you deploy.

"Deploying Application Engine on WebLogic Server"
After you install and configure Application Engine, you must deploy your client application, Workplace, on your WebLogic Server. You might be required to re-create the WAR or WAR and EAR files before you deploy.

Deploying Application Engine on WebLogic Server

After you install and configure Application Engine, you must deploy your client application, Workplace, on your WebLogic Server. You might be required to re-create the WAR or WAR and EAR files before you deploy.

"Re-creating the WAR or EAR file"
Any time that you change files in the `/Workplace` directory, such as changes to `web.xml` for container-managed authentication, SSO support, or any other edits, you must re-create the WAR or EAR file and redeploy your changes.

"Deploying Application Engine" on page 106
To use Workplace as a web application, you must deploy it as an application in the WebLogic Server Administration Console. You can specify the context root for the application URL during the deployment.

Re-creating the WAR or EAR file

Any time that you change files in the `/Workplace` directory, such as changes to `web.xml` for container-managed authentication, SSO support, or any other edits, you must re-create the WAR or EAR file and redeploy your changes.

Remember: Before re-creating the EAR file, you must first re-create the WAR file.

To re-create the WAR or EAR files:
1. Verify that all modified /Workplace directory files have been saved.
2. Re-create the app_engine.war file by running the script for your platform.

Option	Description
Windows	*AE_install_path*\deploy\ create_app_engine_war.bat

3. (For WAR file deployment) Rename the newly re-created app_engine.war file to Workplace.war or *custom_name*.war to create the context root for your application. For example, the default app_engine.war generates the following context root: http://*server_name*:*port#* /app_engine. Renaming the WAR file Workplace.war generates the following context root: http://*server_name*:*port#*/Workplace.

   Important: You must rename the WAR file every time you regenerate it. The create_app_engine_war script by default creates a file with the name app_engine.war.

   Important: Do not rename the WAR file if you are using the WAR file to re-create the EAR file for deployment.
4. (For EAR file deployments only) re-create the app_engine.ear file by running the script for your platform.

Option	Description
Windows	*AE_install_path*\deploy\ create_app_engine_ear.bat

Deploying Application Engine

To use Workplace as a web application, you must deploy it as an application in the WebLogic Server Administration Console. You can specify the context root for the application URL during the deployment.
1. From the WebLogic Server Administration Console, navigate to the domain you initially created for the Application Engine.
2. Prepare the WebLogic Server Administration Console to deploy the application.
3. Choose whether to deploy from an exploded folder (*AE_install_path*) or from the WAR or EAR file (default: app_engine.war or app_engine.ear in *AE_install_path*/deploy).
4. Accept the defaults for the deployment, except for the name for the deployment. Use "Workplace" instead of "appengine".
5. Finish the deployment, and save and activate your changes.

   Tip: To verify that the deployment was successful, expand **Web Applications**. The web application Workplace is listed.

   Tip: To troubleshoot the deployment, check the following log:

   WLS_install_path/user_projects/domains/*domain_name*/servers/*server_name*/logs/*server_name*.log
6. After deployment is complete, start Workplace (or your custom application name) in the WebLogic Server Administration Console.

Setting Application Engine bootstrap preferences

By successfully signing in to Workplace and saving the bootstrap preferences, you verify basic Application Engine functionality such as user authentication as well as communication and storing of data in Content Engine

"Setting the bootstrap properties on first login"
Six bootstrap preference groups are available for configuring the first time you sign in to Workplace.

"Verifying that a single index has been added for Application Name on the site preferences object store" on page 109
To properly index access roles and improve login performance on Application Engine, an index is created for Application Name on the object store that contains the Workplace site preferences. You can verify this index setting after you have successfully configured the bootstrap preferences.

"Enabling user access to the workflow subscription wizard" on page 110
To allow users to create workflows subscriptions, you must configure the PWDesigner access role using the Workplace Site Preferences, and give the users appropriate access rights to the workflow subscriptions classes.

"Enhanced Timezone Detection" on page 110
You can set the **useEnhancedTimeZoneDetection** parameter to accurately detect a time zone for a client browser. This setting cannot be modified through the Site Preferences page. To enable this feature you must manually modify the `bootstrap.properties` file.

Setting the bootstrap properties on first login

Six bootstrap preference groups are available for configuring the first time you sign in to Workplace.

In addition to the preferences covered in this topic, more preferences can be set for the Workplace application using Workplace Site Preferences. For more information, see the IBM FileNet P8 help topic **User Help → Actions, preferences, and tools → Site preferences**.

1. Sign in to Workplace:
   a. On any computer, open a browser and type:

      http://*ApplicationEngineServerName*:*port#*/Workplace

      Important: *ApplicationEngineServerName* cannot be localhost or an IP address.
   b. Enter a user name and password, and then click **Sign in**. The Bootstrap Preferences page opens.

      The user who initially logs in and sets the bootstrap preferences is automatically added to the Application Engine Administrators role. For more information, see the IBM FileNet P8 help topic **User Help → Actions, preferences, and tools → Site preferences → Access Roles preferences**.
2. Enter security info (required for SSL only).
   a. Enter the SSL Host and Port information for the SSL server.
   b. Enter the Java Server HTTP port.

      Use the Security info preference to redirect sign-ins through a Secure Socket Layer (SSL) server and to identify a remote Java server. This encrypts the user IDs and passwords when they travel over the network. See "Setting up Application Engine SSL security" on page 116 for instructions on setting up SSL security for one or more Application Engine installations.

Important: After you have configured SSL, the Site Preferences application also runs under SSL to protect the guest account's user ID and password. This means that when you run Site Preferences on an unsecured server that redirects sign-ins to an SSL server, you will be editing the Bootstrap preferences of the SSL server (stored in the `bootstrap.properties` file). This does not affect the General, Object Store, and Shortcut preferences, which are retrieved from the preferences file saved in the object store.

3. Configure user token settings.

   User Tokens are used by IBM FileNet P8 applications to launch into each other without the need for an additional login.

   a. Select whether or not to create user tokens for your Application Engine (Default: Yes).
   b. Select whether or not the application will pick up generated tokens from other applications (Default: Yes).
   c. Specify a Token timeout interval (1 - 15 minutes).

4. (Required) Specify preference settings.

   Preference settings specify the name of the site preference file, its storage location (object store), and the documentation server URL (if installed). The site preferences file is checked into the object store the first time you log on to Workplace. The site preferences are stored as XML data in this file, `Site Preferences for` *`Preferences name`*`.xml`. Use Enterprise Manager to access this file, and navigate to **Object Stores > Object Store location > Root Folder > Preferences**.

   The bootstrap preferences are saved in the `bootstrap.properties` file, and not in the site preferences file. The default location for this file is *`AE_install_path`*`/FileNet/Config/AE`.

   a. Select an object store from the **Object store location** choice list. The preferences file will be saved in this object store. Workplace users must have access to this object store.
   b. Enter a preference file name in the **Preferences name** field.
   c. Enter the documentation server URL in the **Documentation server** field.

      The format of the URL depends on the documentation package you use:

Table 12. Documentation URLs

FileNet P8 Documentation package	URL
Online information center at www.ibm.com	http://publib.boulder.ibm.com/infocenter/p8docs/v4r5m1/index.jsp
Installed Eclipse-based information center	http://*yourdocserver*:*port#*/p8docs/index.jsp
Installed non-Eclipse-based documentation package	http://*yourdocserver*:*port#*/ecm_help/_start_here.htm

      If no documentation URL is specified, the Workplace Help link will default to http://localhost.

   d. Enter the ISRA Interface Servlet URL.

      For more information, see "Enabling Application Engine to use ISRA" on page 136.

5. Set Banner Image.

   The banner image is the graphic that appears at the upper left-hand side of the Workplace application pages. If you have a banner image that you would like to use in place of the default, follow this procedure.

   a. Copy the new graphic file to the location of your choice on Application Engine in the `/FileNet/AE/Workplace` folder.
   b. In the Path field, type the path (relative to the `/Workplace` folder) to the new banner graphic file.
   c. In the Image Width field, type the width of the image (in pixels).
   d. In the Image Height field, type the height of the image (in pixels).
6. Configure Application Integration.

   This preference setting only affects Outlook integration.

   Select `No` (default) if you do not want users to be prompted to add an e-mail to an object store each time the e-mail is sent.

   Select `Yes` if you want users prompted to add an e-mail to an object store when the e-mail is sent.
7. Add Application Engine Administrators (*ae_admin_user*). Add the users and groups that will perform Application Engine administration tasks to the Application Engine Administrators role.

   The user who initially signs in and sets the bootstrap preferences is automatically added to the Application Engine Administrators role. For more information, see the IBM FileNet P8 help topic **User Help** → **Actions, preferences, and tools** → **Site preferences** → **Access Roles preferences**.

   To modify the access roles after the initial bootstrap configuration, users with the Application Engine Administrators role can use the access roles section of the Workplace Site Preferences. Launch Workplace and navigate to **Admin > Site Preferences > Access Roles**.

   When you access the bootstrap preference page via the Site Preferences application, an additional preference, **Guest info** (to allow guest sign ins), is also available.
8. Click **Apply** to save your bootstrap settings.

After the initial bootstrap configuration, users with the Application Engine Administrators (*ae_admin_user*) role can change any of these preferences by signing into Workplace and navigating to **Admin** → **Site Preferences** → **Bootstrap**.

In a web farm/clustered environment, all Application Engine installations share site preferences by using the same `bootstrap.properties` file. For more information, see the *IBM FileNet P8 High Availability Technical Notice*.

Verifying that a single index has been added for Application Name on the site preferences object store

To properly index access roles and improve login performance on Application Engine, an index is created for Application Name on the object store that contains the Workplace site preferences. You can verify this index setting after you have successfully configured the bootstrap preferences.

To verify the index setting:
1. On Content Engine, launch the Enterprise Manager.
2. In the left pane, expand the **Object Stores** folder.
3. Expand the object store node where your site preferences are stored.
4. Expand **Other Classes** and then **Custom Object**.
5. Right click **Access Role** and select **Properties**.
6. Select the **Property Definitions** tab.

7. Select **Application Name** and click **Edit**.
8. On the General tab of the Application Name Properties, verify that the **Indexed** field shows Single Indexed.
   - If the **Indexed** field shows Single Indexed, click **OK**. The verification is complete. Skip the remaining steps in this procedure.
   - If the **Indexed** field shows Not indexed, continue with the following steps to change the setting.
9. Click **Set/Remove**.
10. Select **Set** and then **Single Indexed**.
11. Click **OK** to set the index.
12. Click **OK** to apply the change and close the Application Name Properties window.
13. Click **OK** to close the Access Role Class Properties window.

Enabling user access to the workflow subscription wizard

To allow users to create workflows subscriptions, you must configure the PWDesigner access role using the Workplace Site Preferences, and give the users appropriate access rights to the workflow subscriptions classes.

1. Assign users as members of the PWDesigner access role. See the IBM FileNet P8 help topic *User Help > Actions, preferences, and tools > Site preferences > Access Roles preferences* .
2. Run the security script wizard with the `workplacescript.xml` file to add accounts to the Workflow Designer role. In Enterprise Manager, right-click the domain root node or the object store node and select **All tasks** → **Run Security Script Wizard**.

   For more information about how to use the Security Script wizard to assign the Workflow Designer role to user or group accounts, see the IBM FileNet P8 help topic **System Administration** → **Content Engine Administration** → **Content Engine Wizard Help** → **Security Script**.

   For more information about the `workplacescript.xml` file and how roles are defined in the Enterprise Manager, see the IBM FileNet P8 help topic **System Administration** → **Content Engine Administration** → **Managing Security** → **Security Script Wizard**.

Enhanced Timezone Detection

You can set the **useEnhancedTimeZoneDetection** parameter to accurately detect a time zone for a client browser. This setting cannot be modified through the Site Preferences page. To enable this feature you must manually modify the `bootstrap.properties` file.

For more information, see the IBM FileNet P8 help topic **System Administration** → **Application Engine** → **Administration** → **Key configuration files and logs** → **bootstrap.properties**.

Related information

IBM FileNet P8 High Availability Technical Notice
Install and initially configure IBM FileNet P8 products on a high availability system.

Configuration and startup tasks

After you install the IBM FileNet P8 components, there are some additional steps to configure the IBM FileNet P8 system. After you configure the IBM FileNet P8 components, familiarize yourself with IBM FileNet P8 system startup and shutdown procedures. See the **System Administration** → **Enterprise-wide Administration** → **Startup and Shutdown** help topic.

"Creating a Process Engine isolated region"
Process Engine clients communicate to isolated regions in the database and to the Process Engine server by using a connection point. Each connection point is associated with an isolated region. In this task you will create an isolated region.

"Creating a Process Engine Connection Point" on page 112
A connection point identifies a specific isolated region of the workflow database, and gives it a name that workflow-related applications use to access the region. Follow these procedures to create a connection point.

"Configuring the Process Engine connection point for Application Engine" on page 113
Before users can access Process Engine tasks and work items from Workplace, you must configure the connection point on the Application Engine.

"Setting up Content Engine and client transport SSL security" on page 114
Configuring SSL enables secure communications between the Content Engine and the directory service, as well as between Content Engine clients and the Content Engine server. In addition, setting up Content Engine SSL provides secure authentication for Process Engine.

"Setting up Application Engine SSL security" on page 116
You can configure an Application Engine to direct sign-ins through a Secure Socket Layer (SSL) https connection. This configuration takes place after you have installed and configured Application Engine.

"Performing additional configuration tasks" on page 119
Once you have completed the installation tasks, your core IBM FileNet P8 system is operational. You can do the recommended additional configuration tasks to prepare the system for general use.

Creating a Process Engine isolated region

Process Engine clients communicate to isolated regions in the database and to the Process Engine server by using a connection point. Each connection point is associated with an isolated region. In this task you will create an isolated region.

In "Configuring the Process Engine connection point for Application Engine" on page 113 you will define a connection point to this isolated region.

To create a Process Engine isolated region:

1. Start Enterprise Manager by double-clicking the FileNet Enterprise Manager SnapIn on the desktop, or by navigating to **Start > All Programs > FileNet P8 Platform > FileNet Enterprise Manager Administration Tool**. Log on as a GCD administrator.
2. Connect to the FileNet P8 domain that you created previously.
3. Right-click **PE Region ids > New PE Region ids**.

4. On the Specify a Site screen, click **Next** to select a site named *initial site* .
5. Enter the DNS name for the Process Engine server. This is the network name from the installation worksheet.
6. Enter the region ID.
7. Modify the communication port if needed. This communication port must match the password that was entered in the Process Task Manager for the communication port in "Configuring Process Task Manager" on page 89.
8. Click **Next**.
9. Enter the password for the isolated region. This password must match the password entered in the Process Task Manager for the isolated region in "Configuring Process Task Manager" on page 89.
10. Click **OK** on the Confirmation Window.
11. Click **Finish** to finish creating a new isolated region for Process Engine.

Related tasks

"Establishing the FileNet P8 domain and Global Configuration Data (GCD)" on page 53
With Content Engine installed and deployed, you must use IBM FileNet Enterprise Manager to create a FileNet P8 domain. You can also use Enterprise Manager to set a URL to the FileNet P8 online help if you did not specify the location when you ran the Content Engine installation program.

Creating a Process Engine Connection Point

A connection point identifies a specific isolated region of the workflow database, and gives it a name that workflow-related applications use to access the region. Follow these procedures to create a connection point.

To create a Process Engine connection point:

1. Start Enterprise Manager by double-clicking the FileNet Enterprise Manager SnapIn on the desktop, or by navigating to **Start > All Programs > FileNet P8 Platform > Enterprise Manager SnapIn**. Log in as a GCD administrator.
2. Connect to the FileNet P8 domain that you created previously.
3. Right-click **PE Connection Points** → **New PE Connection Points**.
4. Enter a Process Engine Connection Point name and click **Next**.

   Process Engine Connection Point names must not contain whitespace characters.
5. Choose the region which is created in "Creating a Process Engine isolated region" on page 111, and click **Next**.
6. Click **Finish** to finish creating the Connection Point.
7. Click **OK.**

Related tasks

"Establishing the FileNet P8 domain and Global Configuration Data (GCD)" on page 53
With Content Engine installed and deployed, you must use IBM FileNet Enterprise Manager to create a FileNet P8 domain. You can also use Enterprise Manager to set a URL to the FileNet P8 online help if you did not specify the location when you ran the Content Engine installation program.

Configuring the Process Engine connection point for Application Engine

Before users can access Process Engine tasks and work items from Workplace, you must configure the connection point on the Application Engine.

Make sure that you have already created a Process Engine isolated region and a Process Engine connection point and that the Process Engine software is running.

To configure the connection point:

1. Sign in to Workplace as an Application Engine Administrator:
   a. On any computer, open a browser and navigate to:
      http://*ApplicationEngineServerName*:*port*#/Workplace
   b. Sign in with the same account that you used to set the bootstrap preferences.
2. Click **Admin**.
3. Click **Site Preferences**.
4. Under **General Settings > Tasks**, select a **Process Engine Connection Point** from the list.
5. Click **Apply**.
6. Click **Exit**.

   Important: Initializing the isolated region, as described in the next step, in an existing environment will destroy all data in the existing region.
7. (For new installations only) Initialize the isolated region.
   a. Click **Admin**.
   b. Click **Process Configuration Console**.
      If your computer does not have the appropriate Java Runtime Environment (JRE) installed, you will be prompted to download the JRE at this point; follow the prompts to complete the download. During the installation process, click the **Browser** tab and enter the following settings:
      - Clear the **Internet Explorer** option.
      - If you will be using Netscape 6.0, select the **Netscape** option.
   c. Right-click the icon or **name of the isolated region** you want to initialize, and select **Connect**.
   d. Click **Action**.
   e. Click **Initialize Isolated Region**.
   f. Click **Yes** at the prompt asking if you want to continue.
   g. Close the Process Configuration Console.
8. In Workplace, click **Tasks** to confirm that Application Engine is communicating with Process Engine.
9. Sign out of Workplace.

Setting up Content Engine and client transport SSL security

Configuring SSL enables secure communications between the Content Engine and the directory service, as well as between Content Engine clients and the Content Engine server. In addition, setting up Content Engine SSL provides secure authentication for Process Engine.

Important: IBM strongly recommends enabling SSL for the Content Engine and Process Engine web services. Authentication over these two web services is usually performed by providing username and password credentials. If these web services are not configured to run over an SSL connection, clear text passwords will be sent across the network. (However, this is not true when Kerberos-based authentication is used. In the IBM FileNet P8 4.5 release, Kerberos authentication is available only for the Content Engine web service.) The option not to use SSL over these two web services is provided primarily for development systems or other non-production systems where the security provided by SSL might not be required.

For access to the Content Engine through the EJB transport (IIOP or T3 protocol), an SSL connection is necessary to provide privacy for data sent across the network. However, user passwords would not be compromised if SSL were not used. While it is preferable to use SSL with the EJB transport (IIOP or T3 protocol), it is not a requirement.

- The Content Engine web service is used:
  - By all clients of the Content Engine version 4.5.1 .NET API
  - By all clients of the Content Engine version 4.5.1 COM Compatibility API (CCL)
  - By the Enterprise Manager tool
  - By the Content Engine version 3.5.2 to 4.5.1 Upgrade tool
  - By the Process Engine, when making calls to the Content Engine to retrieve user and group information
  - By the Component Manager, running on the Application Engine, which is an integral component for BPM Process Orchestration framework
  - By customer and 3rd party tools written against the Content Engine version 3.5 web service API, including Altien Document Manager and the Sharepoint integration done by Vorsite.
- Certain Java applications (written against the Content Engine version 3.5 Java API or the Content Engine 4.5 Java API) might use the Content Engine web service transport, but typically they would use EJB transport (IIOP or T3 protocol).
- The Application Engine server uses only the EJB transport to communicate with the Content Engine in the 4.5.1 release.
- The Process Engine web service is used by customer and independent software vendor applications to write runtime applications (typically step processor applications) against the Process Engine. The Process Engine Java API does not make use of the Process Engine web service.

  "Enabling SSL for Content Engine" on page 115
  When you enable SSL, a server certificate is added to the Directory Services server (for authentication). In addition, the CA certificate is added in two different locations on the Content Engine server (the JDK path location is for authorization). Take care to ensure that the proper certificate is added to each of the three locations.

"Enabling SSL between Enterprise Manager and the directory service" on page 116
Use the Enterprise Manager interface to enable SSL between Enterprise Manager and the directory service.

Enabling SSL for Content Engine

When you enable SSL, a server certificate is added to the Directory Services server (for authentication). In addition, the CA certificate is added in two different locations on the Content Engine server (the JDK path location is for authorization). Take care to ensure that the proper certificate is added to each of the three locations.

To enable SSL for Content Engine:

1. Obtain and install a server certificate and a CA certificate on the directory service. These certificates are available from independent certificate authorities, such as VeriSign, or you can generate your own certificates if you have the necessary certificate management software installed.
2. Enable SSL on the directory service and set the SSL port number. The default SSL port number is 636; however, if you have more than one directory service that is using SSL on the server, you might need to use a non-default port number. See your directory server documentation for instructions.
3. On the Content Engine server, add the CA certificate to the application server keystore, if it does not already contain it.
4. On the Content Engine server, add the CA certificate to the JDK (Java) keystore, if it does not already contain it. You can use the default key store, or create your own key store in a custom location.
   - To use the JDK default Java key store, do the following:
     a. Determine the Java version your application server uses and the JAVA_HOME location.
     b. Use the keytool to import the CA certificate to the Java keystore at `%JAVA_HOME%\jre\lib\security\cacerts`.
     c. To improve security, change the default password.
   - To use your own key store (rather than the JDK default key store), do the following:
     a. Add the following system parameters to the Java command line in your application server startup script:
        ```
        -Djavax.net.ssl.trustStore= path_to_your_keystore_file
        -Djavax.net.ssl.trustStorePassword= password_of_your_keystore
        ```
     b. Use the Java keytool to import the CA certificate to your own keystore.
5. Use Enterprise Manager to enable SSL for Content Engine and set the port number to match the SSL port on the directory server.
6. Obtain another server and CA certificate for the Content Engine.
7. Create a custom identity keystore on the Content Engine server, and add the server certificate to the custom keystore.
8. Using the application server administration tool, enable SSL and point to the custom identity keystore. Directions vary by application server type; see your application server documentation for detailed procedures.

Option	Description
Oracle WebLogic Server	Set up a custom identity keystore. In the left pane of the WebLogic Administration Console, navigate to *DomainName* > Servers > *ServerName*. In the right pane, select Keystores and SSL and specify the keystore information.

Important: (WebLogic only) The name in your certificate must match the host name specified in your WebLogic application server. If the name in the certificate is fully qualified (for example, Host1.filenet.com), the same fully qualified host name must appear in the Host field (**WebLogic** → **Authentication Provider** → **Active Directory tab** → **Host field**).

9. Configure clients to use a particular URL for connecting to Content Engine based on the application server type and the client transport (protocol) type. The following table provides the default ports and sample URLs:

Protocol	SSL	Default Port	App Server	Sample URL
HTTP	no	7001	WebLogic	http://mycorp.com:7001/wsi/FNCEWS40MTOM/
HTTPS	yes	7002	WebLogic	https://mycorp.com:7002/wsi/FNCEWS40MTOM/
T3 (IIOP)	no	7001	WebLogic	t3://mycorp.com:7001/FileNet/Engine
T3S (IIOP)	yes	7002	WebLogic	t3s://mycorp.com:7002/FileNet/Engine

The port values in the table are default values. If you change the port that your application server listens on, you might need to change the port number used by the Content Engine client.

Enabling SSL between Enterprise Manager and the directory service

Use the Enterprise Manager interface to enable SSL between Enterprise Manager and the directory service.

To enable SSL between Enterprise Manager and the directory service:

1. Start Enterprise Manager and log in as a GCD administrator.
2. In the tree view, right-click the root node and choose **Properties**.
3. In the Enterprise Manager Properties dialog box, click the **Directory Config.** tab, select a directory service, and click **Modify**.
4. In the **General** tab of the Modify Directory Configuration dialog box, set the **Is SSL Enabled** parameter to True and modify the port number appropriately.
5. Click **OK** in each open dialog box.

Setting up Application Engine SSL security

You can configure an Application Engine to direct sign-ins through a Secure Socket Layer (SSL) https connection. This configuration takes place after you have installed and configured Application Engine.

Application Engine supports the following methods of configuring an SSL environment:

- Full SSL support - A single Application Engine server, where all of the software is running under SSL.
- One server SSL redirect - One Application Engine server set up to redirect logon attempts on the non-SSL port to the SSL port.
- Two server SSL redirect - Two Application Engine servers, where one is SSL-enabled, and the other redirects users to the SSL-enabled Application Engine server to log on.

"Setting up full SSL support on a single Application Engine"
To set up full SSL support, enable SSL on the preferred application server.

"Setting up SSL redirect on a single Application Engine server"
To set up SSL redirect, enable SSL on the preferred application server, set your bootstrap preferences, update the base URL, and sign out.

"Setting up SSL redirect on two Application Engine servers" on page 118
You can set up two-server SSL redirect for Application Engine. In this configuration, one Application Engine server is SSL-enabled, and the other Application Engine redirects users to the SSL-enabled Application Engine server to log on.

"Using Java Applets in an SSL Environment" on page 119
If you are using a Java applet in an SSL environment, you might experience an SSLHandshakeException because the appropriate certificate does not exist on your computer. Follow the instructions in the IBM FileNet P8 help topic **User Help** → **Using Workplace** → **Basics** → **Use Java applets** to resolve this issue.

Setting up full SSL support on a single Application Engine

To set up full SSL support, enable SSL on the preferred application server.

To set up full SSL support on a single Application Engine:

1. Enable SSL on the application server that runs Application Engine (see your SSL documentation).
2. Test the SSL connection by signing into Workplace using the following URL:

   https://*Application_Engine_server_name*:*SSL port*/Workplace

   The entire sign-in process will be handled by the SSL-enabled host.

Related concepts

SSL port numbers
For more information about SSl port numbers, see *Plan and Prepare Your Environment for IBM FileNet P8*.

Setting up SSL redirect on a single Application Engine server

To set up SSL redirect, enable SSL on the preferred application server, set your bootstrap preferences, update the base URL, and sign out.

To set up SSL redirect on a single Application Engine server:

1. Enable SSL on the application server that runs Application Engine (see your SSL documentation).
2. Sign in to Workplace:
   a. On any computer, open a browser and type the following URL address:

      http://*Application_Engine_server_name*:*port*#/Workplace

b. Sign in as a user with Application Engine Administrator access role privileges. For more information, see the IBM FileNet P8 help topic *User Help > Actions, preferences, and tools > Site preferences > Access Roles preferences*.

3. Set bootstrap preferences:
   a. Navigate to **Admin Site Preferences > Bootstrap**.
   b. Set the Security info Site Preference SSL Host:Port to identify the alias host name and port number.

      Use the IP address of the Application Engine server for the SSL Host entry.
   c. Click **Apply** to save your bootstrap settings.
4. Update the base URL:
   a. Navigate to **Admin > Site Preferences > Refresh**.
   b. Enter the Workplace Base URL value in the provided field. The URL must contain a valid host name, and not contain "localhost" or an IP number. For example, http://myserver:7001/Workplace

      For more information, see the IBM FileNet P8 help topic *User Help > Actions, preferences, and tools > Site preferences > Refresh preferences* .
   c. Click **Refresh** to update the base URL.
   d. Click **Exit** to close Site Preferences.
5. Sign out of Workplace, and close your browser.
6. Test the SSL connection by signing in to Workplace using the following URL:

   http://*Application_Engine_server_name*:*non-SSL port*/Workplace

   You will be redirected to the SSL-enabled port for sign in, then back to the non-SSL enabled port after sign-in is complete. Before sign-in, you should receive a warning that you are accessing pages over a secure connection (unless you turned this dialog box off), and then Workplace will open.

Setting up SSL redirect on two Application Engine servers

You can set up two-server SSL redirect for Application Engine. In this configuration, one Application Engine server is SSL-enabled, and the other Application Engine redirects users to the SSL-enabled Application Engine server to log on.

1. Install Application Engine on both computers so that both Application Engine installations use the same `bootstrap.properties` file and site preferences file (the setup program will prompt you for a shared location).

   During setup of the first Application Engine, create a share on the folder where the `bootstrap.properties` file is installed (the `\WEB-INF` folder). Then during setup of the second Application Engine, specify the shared location from the first installation. The `bootstrap.properties` file must already exist when specifying a shared location. See "Setup WebLogic clusters" or "Setup WebSphere clones" in the *IBM FileNet P8 High Availability Technical Notice* for specific instructions.

   Important: The system clocks on the two Application Engine servers must be synchronized to within the Token time-out interval. For more information, see the IBM FileNet P8 help topic **User Help** → **Actions, preferences, and tools** → **Site preferences** → **Bootstrap Preferences** → **User token settings**.
2. Copy the `UTCryptokeyFile.properties` file.

   For SSL redirect to work, each Application Engine must use the same User Token cryptographic key file.

After installing the second Application Engine, copy the `UTCryptoKeyFile.properties` file from the first Application Engine server to the same location on the second Application Engine server.

Copy the file over a secure link.

3. Enable SSL on the application server that you are using for the SSL-enabled Application Engine (see your SSL documentation).
4. Sign in to Workplace on the non-SSL enabled Application Engine.
   a. On any computer, open a browser and type:

      http://*ApplicationEngineServerName*:*port#*/Workplace
   b. Sign in as a user with Application Engine Administrator access role privileges. For more information, see the IBM FileNet P8 help topic**User Help** → **Actions, preferences, and tools** → **Site preferences** → **Access Roles preferences**.
5. Set bootstrap preferences:
   a. Navigate to **Admin > Site Preferences > Bootstrap**.
   b. Set the Security info Site Preference SSL Host:Port to identify the alias host name and port number.
   c. Click **Apply** to save your bootstrap settings.
6. Update the base URL:
   a. Navigate to **Admin** → **Site Preferences** → **Refresh**.
   b. Enter the Workplace Base URL value in the provided field. The URL must contain a valid host name, and not contain localhost or an IP number. For example, `http://myserver:7001/Workplace`

      For more information, see the IBM FileNet P8 help topic **User Help** → **Actions, preferences, and tools** → **Site preferences** → **Refresh preferences** .
   c. Click **Refresh** to update the base URL.
   d. Click **Exit** to close Site Preferences.
7. Sign out of Workplace, and close your browser.
8. Test the SSL connection by signing into Workplace using the following URL: `http://`*`Application_Engine_server_name:non-SSL port#`*`/Workplace`

   You will be redirected to the SSL-enabled server for sign in, then back to the non-SSL enabled server after sign-in is complete. Before sign-in, you should receive a warning that you are accessing pages over a secure connection (unless you turned this dialog box off), and then Workplace will open.

Related information

IBM FileNet P8 High Availability Technical Notice
Install and initially configure IBM FileNet P8 products on a high availability system.

Using Java Applets in an SSL Environment

If you are using a Java applet in an SSL environment, you might experience an SSLHandshakeException because the appropriate certificate does not exist on your computer. Follow the instructions in the IBM FileNet P8 help topic **User Help** → **Using Workplace** → **Basics** → **Use Java applets** to resolve this issue.

Performing additional configuration tasks

Once you have completed the installation tasks, your core IBM FileNet P8 system is operational. You can do the recommended additional configuration tasks to prepare the system for general use.

Except where noted, the topics in the following list are located in the IBM FileNet P8 help. The documentation URL varies depending on the documentation package you use.

Table 13. Documentation URLs

FileNet P8 Documentation package	URL
Online information center at www.ibm.com	http://publib.boulder.ibm.com/infocenter/p8docs/v4r5m1/index.jsp
Installed ecm_help documentation package	http://*yourdocserver*:*port*#/ecm_help/_start_here.htm

- Configure Content Federation Services for Image Services Guidelines. See the *IBM FileNet Content Federation Services for Image Services Planning and Configuration Guide*.
- Configure Application Engine to set the file types you want to open in a browser window rather than opening the Image Viewer. See **System Administration** → **Application Engine Administration** → **Key configuration files and logs** → **content_redir.properties file**.
- Set site preferences for the Workplace application. See **User Help** → **Actions, preferences, and tools** → **Site preferences**.
- Design searches and/or search templates for Workplace users. See **User Help** → **Actions, preferences, and tools** → **Search Designer** → **About Search Designer**.
- Design publishing templates for Workplace users. See **User Help** → **Actions, preferences, and tools** → **Tools** → **Publishing Designer** → **About Publishing Designer**.
- Configure security for publishing. See **User Help** → **Actions, preferences, and tools** → **Tools** → **Publishing Designer** → **Security** → **Specify publication document security**.
- Configure automatic workflow launch. See **System Administration** → **Content Engine Administration** → **Events and subscriptions** → **Concepts: workflow subscriptions**.
- Create and configure the object stores that will contain business objects, folders, documents, workflow definitions, searches, and other objects. See **System Administration** → **Content Engine Administration** → **Object stores** → **How to...** → **Create object store**.
- Define document classes and folders and set security for each class. See **System Administration** → **Content Engine Administration** → **Classes** → **Concepts**.
- Review and, if necessary, edit the security of the network shared folders containing any file stores created for the object store. See **System Administration** → **Content Engine Administration** → **Content storage** → **File storage areas** .
- Configure Process Engine for automatic startup. See **System Administration** → **Enterprise-wide Administration** → **Process Task Manager** → **Process Engine** → **Process Service** → **Start and stop Process Service** → **Configure the Process Service for automatic startup (Windows)**.
- Configure e-mail notification. See **System Administration** → **Process Engine Administration** → **Workflow administration tasks** → **Coordinating workflow design** → **Email notification**.
- Set Process Engine runtime options. See **User Help** → **Integrating workflow** → **Process Configuration Console** → **VWServices** → **View or modify VWService properties** → **Set runtime options**.

- Set the default date/time mask for the Process Service. See **Process Engine → Process Task Manager → Process Service → Configuring Process Service → General properties**.
- Create content cache area. See **System Administration → Content Engine Administration → Content storage → Content cache areas → How to... → Create content cache**.
- Create additional authentication realms. See **System Administration → Enterprise-wide Administration → FileNet P8 Security → How to → Configure for multiple realms**.
- Define additional isolated regions. See **User Help → Integrating workflow → Process Configuration Console → Isolated regions**.
- For each isolated region:
  - Define workflows. See **User Help → Integrating workflow → Process Designer**.
  - Configure event logging options. See **User Help → Integrating workflow → Process Configuration Console → Isolated regions → View or modify isolated region properties → Configure event logging options**.
  - Configure step processors. See **User Help → Integrating workflow → Process Configuration Console → Isolated regions → View or modify isolated region properties → Configure custom step processors**.
  - Define and configure work queues. See **User Help → Integrating workflow → Process Configuration Console → Queues → Configuring work queues**.
  - Define and configure component queues. See **User Help → Integrating workflow → Process Configuration Console → Queues → Configuring component queues**.
  - Define and configure workflow rosters. See **User Help → Integrating workflow → Process Configuration Console → Queues → Rosters**.

Related information

Product documentation for IBM FileNet P8 Platform
Download the IBM FIleNet P8 Non-English Support Guide, as well as PDF's of the rest of the IBM FileNet P8 Platform documentation.

Optional installation tasks

You can install the additional or optional IBM FileNet P8 components in any order.

By using the Component Integrator functionality included in the IBM FileNet P8 Platform, a step in a workflow can access properties of documents, folders, and other objects in an object store. Using this functionality requires configuration on both Application Engine and Process Engine servers.

You can install an instance of Enterprise Manager in addition to the one that you already installed.

Perform this task to create additional file storage areas for existing object stores. To create additional fixed storage areas, navigate instead to the IBM FileNet P8 help topic **System Administration** → **Content Engine Administration** → **Content storage** → **Fixed storage areas**.

IBM FileNet Deployment Manager works with Enterprise Manager to deploy test systems into full production. You can install the IBM FileNet Deployment Manager interactively or silently on a Windows machine.

You can install Application Integration if you want to integrate IBM FileNet Workplace with your Microsoft Office applications and Outlook. You must complete the installation procedure on each machine that will use Workplace Application Integration.

If you want to use the file tracking feature without installing Application Integration, you can install Workplace File Tracker. Complete the installation on each machine that will use Workplace File Tracker.

You can deploy multiple instances of Workplace on a single application server. Each deployment of Workplace must use the same Content Engine, Process Engine, and connection point.

Image Services Resource Adaptor (ISRA) is a J2EE connector to the IBM FileNet Image Services libraries. Using ISRA, Workplace users can view FileNet Image Services documents and their associated annotations in the FileNet Image Viewer and, if they have the appropriate permissions, update the annotations.

Content Engine, Application Engine, and Process Engine install, by default, the necessary software required for the System Manager performance component. To use System Manager, enable associated components and install IBM System Dashboard for Enterprise Content Management to perform related configuration procedures to enable System Manager.

You can add Autonomy K2 servers or move existing servers to new hardware.

The option to install the COM compatibility layer is available as part of the IBM FileNet P8 Content Engine installer.

Enabling the Process Engine Component Integrator

By using the Component Integrator functionality included in the IBM FileNet P8 Platform, a step in a workflow can access properties of documents, folders, and other objects in an object store. Using this functionality requires configuration on both Application Engine and Process Engine servers.

As a post-installation task, you must define workflows that incorporate Content Engine operations in order to use the out-of-the-box Component Integrator functionality. For further details on defining such workflows, see the IBM FileNet P8 help topic **Steps** → **Component Steps** → **General Properties** → **Using Content Engine (CE) operations in a workflow**.

After the software is installed, users can extend the out-of-the-box Component Integrator functionality so that a workflow step can interact with an external entity such as a Java object or Java Messaging Service (JMS) messaging system. For further information, see the IBM FileNet P8 help topic **Developing Process Applications** → **Developing Work Performers / Component Integrator Operations**.

To specify the user name and password for the Java adaptor (on an Application Engine server):

1. Sign in to Workplace.

   If you defined the Process Engine Configuration Group on the Security tab of Process Task Manager (when completing "Configuring Process Task Manager" on page 89), you must sign in as a member of either that group or the Process Engine Administrators Group, which was also defined on the Security tab, in order to complete the following steps.
2. In Workplace, click **Admin** and then click **Process Configuration Console**.

   If your computer does not have the appropriate Java Runtime Environment (JRE) installed, you will be prompted to download the JRE at this point; follow the prompts to complete the download. During the installation process, click the **Browser** tab and clear the Internet Explorer option.

   For further information about the JRE download, click **Help** in Process Configuration Console, click **Process Reference** on the help page toolbar, and see the IBM FileNet P8 help topic **Concepts** → **Java Runtime Environment (JRE)**.
3. Select the Isolated Region icon that corresponds to the isolated region that you initialized. For more information, see "Creating a Process Engine isolated region" on page 111.
4. Right-click the **CE_Operations** component queue and select **Properties** .
5. On the Adaptor tab of the displayed dialog box, enter a user name and password that will be used for identification and permissions for both Process Engine and potentially any external systems that will be accessed. By default, the user name and password are set to *Administrator and <no password>*, respectively. If you choose to use another user name and password, they must already exist in the directory service.

   For additional information about the fields on the Adaptor tab, click the **Help** button. To use the out-of-the-box functionality, it is necessary to modify only the user name and password fields.
6. Click **OK** and commit the changes.

   "Configuring and starting the Component Manager (on an Application Engine server)" on page 125
   Configure the Component Manager and start it on an Application Engine.

"Specifying connection between Process Engine and Component Manager (on a Process Engine server)" on page 126
Configure the connection between the Process Engine and the Component Manager using Process Task Manager on the Process Engine.

Configuring and starting the Component Manager (on an Application Engine server)

Configure the Component Manager and start it on an Application Engine.

1. Start Process Task Manager on the Application Engine server by running one of the following command files from the `AE_install_path/FileNet/AE/Router` directory, depending on your operating system:.

Option	Description
Windows	`routercmd.bat`

   If the Registry Port assigned to Component Manager conflicts with the port number required by another application or service running on the Application Engine server, Process Task Manager will not start up as expected and the necessary `vwtaskman.xml` will not be automatically created. If this happens, make a copy of the sample `vwtaskman.xml.sample` file located on the Process Engine or Application Engine.
   - On Process Engine, the file is located in the /fnsw/bin directory.
   - On Application Engine, the file is located in:
   -
     – `Drive:\Program Files\FileNet\AE\Router` on Windows

   Open `vwtaskman.xml.sample` with a text editor, change the port element value to an available port number, and save the file to `vwtaskman.xml` in the same directory.
2. In Process Task Manager, select the server name in the left pane.
3. Find the Registry Port for the server in the right pane and verify that it is correct.
4. Select **Component Managers** in the left pane .
5. Enter the Content URI , service username, and service password Content URI to authenticate to the Content Engine server. The Content URI defaults and you can use the default or change the value.
6. Right-click and select **New** to select a connection point from the drop down list.
7. Enter or modify the component properties as appropriate. For details, see the **System Administration → Enterprise-wide Administration → Process Task Manager → Component Manager → Configure Component Manager → General properties**. In an environment configured for single sign-on (SSO), do not use the SSO server name in the URL, even if Process Task Manager displays it by default.
8. Click **Start** on the toolbar.

Related concepts

IBM FileNet P8 ports
For details on how to resolve port number conflicts, see *Plan and Prepare Your Environment for IBM FileNet P8*.

Specifying connection between Process Engine and Component Manager (on a Process Engine server)

Configure the connection between the Process Engine and the Component Manager using Process Task Manager on the Process Engine.

Configuring this connection is not recommended in a high availability configuration.

1. On the Process Engine server, start Process Task Manager as follows, depending on your operating system:

Option	Description
Windows	Select **Start > Programs > IBM FileNet P8 Platform > Process Engine > Process Task Manager**.

2. Select Process Engine in the left pane (also referred to as the feature pane).
3. In the **Component Manager connection** section, select the **Server Connections** tab.
4. In the **Host** field, enter the host name of the Application Engine server where Component Manager is running.
5. In the **Event Port** field, enter the port that the Component Manager listens to for incoming events. The default is 32773. The port number you enter must match the number you entered when you configured the Component Manager previously.

Installing an additional instance of Enterprise Manager

You can install an instance of Enterprise Manager in addition to the one that you already installed.

Important: Do not install Enterprise Manager version 4.5.1 or the COM Compatibility Clients API on any machine that is running the 3.5 version, at least until the Content Engine 4.5.1 upgrade is complete. Otherwise, you will no longer be able to run Enterprise Manager 3.5 against any remaining 3.5 object stores. You might be required to use Enterprise Manager to prepare for upgrading the 3.5 object stores.

Remember: You can install Enterprise Manager only on a Windows machine by using the Windows version of the Content Engine installation media.

To install an additional instance of Enterprise Manager:

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Content Engine values, filter by **CE Installer** in the **Installation or Configuration Program** column.
2. On the machine where you install Enterprise Manager, log on as a member of the Local Administrators group or the Power Users group.

3. If you have not already done so, install the required Windows components.

Option	Description
Microsoft Windows XP, Microsoft Windows Server 2003	Microsoft .NET Framework 2.0 and Web Services Enhancements (WSE) 3.0
Content Engine version 4.5.1 Fix Pack 002 or higher with Microsoft Windows Vista, Microsoft Windows Server 2008, or Microsoft Windows 7	Microsoft .NET Framework 3.0 and Windows Communication Foundation (WCF)

4. Access the Content Engine software package.
5. Start the Enterprise Manager installation.

Option	Description
To install interactively	1. Run the following command in the software package: `P8CE-4.5.1-WIN.exe`. 2. Complete the installation program wizard.
To install silently	1. Open the `CE_silent_install.txt` file in the software package for editing. 2. Set the parameter values in the `CE_silent_install.txt` file for your site. Be sure to set the CHOSEN_INSTALL_FEATURE_LIST parameter value to: **DotNetClients,AdminTools** 3. Save your edits. 4. Run the following command in the software package on a single line: `P8CE-4.5.1-WIN.EXE -f CE_silent_install.txt -i silent`

6. Install any service packs, fix packs, or interim fixes.

Creating additional file storage areas

Perform this task to create additional file storage areas for existing object stores. To create additional fixed storage areas, navigate instead to the IBM FileNet P8 help topic **System Administration** → **Content Engine Administration** → **Content storage** → **Fixed storage areas**.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

Complete the following procedure for each file storage area you want to create.

1. Prepare a location for the file storage area, as shown in "Prepare storage areas for object stores" in *Plan and Prepare Your Environment for IBM FileNet P8*.
2. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Enterprise Manager values for this task, filter by **EM: Create a Storage Area** in the **Installation or Configuration Program** column.

3. Start Enterprise Manager.
4. Select a FileNet P8 domain and log on as an administrator of the object store in which you will create a file storage area.
5. Right-click the **Storage Areas node** and then choose **New Storage Area**.
6. When the Create a Storage Area wizard opens, complete the wizard screens by using the values in your worksheet.

   “Verifying the file storage area”
   To verify the file storage area, log onto the machine that Content Engine Server is installed and verify that `fsa1` contains an XML file named `fn_stakefile`.

Verifying the file storage area

To verify the file storage area, log onto the machine that Content Engine Server is installed and verify that `fsa1` contains an XML file named `fn_stakefile`.

1. Log on to the machine where the Content Engine Server is installed.
2. List the contents of the `fsa1` directory you created or designated when you configured your file server.
3. Verify that `fsa1` contains an XML file, named `fn_stakefile`, and two subdirectories, `content` and `inbound`.

   Important: On UNIX machines, the `content` and `inbound` subdirectories must be in the same file system.
4. Verify that `fsa1` has the ownership and access permissions you specified.
5. Assign the new storage area as the default storage location for one of your document classes. See the IBM FileNet P8 help topic **System Administration** → **Content Engine Administration** → **Content storage** → **File storage areas** for more information.

Related information

Configuring a UNIX-based file server
For more information about the fsa1 directory, see the "Configuring a UNIX-based file server" in *Plan and Prepare Your Environment for IBM FileNet P8*.

Configuring a Windows-based file server for a Windows client
For more information about the fsa1 directory, see *Plan and Prepare Your Environment for IBM FileNet P8*.

Configuring a Windows-based file server for a UNIX client
For more information about the fsa1 directory, see *Plan and Prepare Your Environment for IBM FileNet P8*.

Installing IBM FileNet Deployment Manager

IBM FileNet Deployment Manager works with Enterprise Manager to deploy test systems into full production. You can install the IBM FileNet Deployment Manager interactively or silently on a Windows machine.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

FileNet Deployment Manager runs only on Windows.

To install IBM FileNet Deployment Manager:

1. Open your completed Installation and Upgrade Worksheet file.

Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Content Engine values, filter by **CE Installer** in the **Installation or Configuration Program** column.

2. On the machine where you will install FileNet Deployment Manager, log on as a member of the Local Administrators group or the Power Users group.
3. If you have not already done so, install the required Windows components.

Option	Description
Microsoft Windows XP, Microsoft Windows Server 2003	Microsoft .NET Framework 2.0 and Web Services Enhancements (WSE) 3.0
Content Engine version 4.5.1 Fix Pack 002 or higher with Microsoft Windows Vista, Microsoft Windows Server 2008, or Microsoft Windows 7	Microsoft .NET Framework 3.0 and Windows Communication Foundation (WCF)

4. Access the Content Engine installation software.
5. Start the FileNet Deployment Manager installation.

Option	Description
Interactive installation	1. Run the following command in the software package: `P8CE-4.5.1-WIN.EXE` 2. Complete the program installation wizard by using the values from your worksheet.
Silent installation	1. Open the `CE_silent_install.txt` file in the software package for editing. 2. Set the parameter values in the `CE_silent_install.txt` file for your site. Be sure to set the **CHOSEN_INSTALL_FEATURE_LIST** parameter value to **Tools** If you want to also install FileNet Enterprise Manager on this machine, select .NET Clients as well:**DotNetClients,Tools** 3. Set the LAUNCH_CM value to 0. 4. Save your edits. 5. Run the following command in the software package on a single line: `P8CE-4.5.1-WIN.EXE -f CE_silent_install.txt -i silent`

To start FileNet Deployment Manager, choose **Start** → **All Programs** → **FileNet P8 Platform** → **P8 Deployment Manager**.

Installing Application Integration

You can install Application Integration if you want to integrate IBM FileNet Workplace with your Microsoft Office applications and Outlook. You must complete the installation procedure on each machine that will use Workplace Application Integration.

"Installing Application Integration interactively"
You can access the Application Integration installation program from within the Workplace application. Complete the wizard screens to provide the appropriate values for your Application Integration installation.

"Installing Application Integration silently" on page 131
To install the Application Integration software silently, save the `ApplicationIntegration.exe` file locally and then run it at the command line using the /s switch.

"Verifying your Workplace Application Integration installation" on page 132
After you install Application Integration, you can verify your installation by trying the functions from within an integrated Microsoft application.

Installing Application Integration interactively

You can access the Application Integration installation program from within the Workplace application. Complete the wizard screens to provide the appropriate values for your Application Integration installation.

To install the Application Integration software interactively:

1. Log onto the client machine with an account that has Administrator privileges.
2. Sign in to Workplace.
3. Click **Author**, and then click **General Tools**.
4. Scroll down and click **Download Application Integration for Microsoft Office,** and then do one of the following:
   - Click **Open** to run the program from its current location.
   - Click **Save**. In the Save As dialog box, find a location on your machine in which to download and save the `ApplicationIntegration.exe` file locally, and then click **Save**. After the file is saved to your hard drive, double-click the file to run the installer.

   The Welcome Wizard dialog box for Application Integration appears. Another Welcome dialog box appears.
5. Click **Next**.
6. Read the license agreement, and then select **I accept the terms to the license agreement**, and then click **Next**. If you do not accept the license agreement, you cannot continue with the install.
7. Do the following:
   - Select the applications you want to integrate, and then click **Next**.

     Remember: The Application Integration Toolkit Components option is required to use Application Integration.
   - Under **Install to**, the default installation path is displayed. Click **Change** to specify a different location on the Change Current® Destination Folder dialog box, and then click **OK**. Click **Next**.

     You might see two default installation paths - one for Microsoft Office and Outlook, and another for the Toolkit Components. The Toolkit Components path only appears when the system on which you are installing Application Integration has the Toolkit Components currently installed. You cannot modify the Toolkit Components installation path.
8. Enter the server name, port number and application name that defines the Workplace address. The *server name* is the name of the web server running

Workplace, *port number* is the web server assigned port, *application* is the directory where you installed the Workplace application files.

Check **Server uses secure connection (SSL)** if you are running full SSL to encrypt all communication with Workplace.

You can also leave these fields blank and enter the information when you log on to Workplace Application Integration.

9. Click **Next**.
10. Click **Install**.
11. After the install is complete, click **Finish** to complete the setup process.

Installing Application Integration silently

To install the Application Integration software silently, save the `ApplicationIntegration.exe` file locally and then run it at the command line using the /s switch.

1. Log in to the client machine using an account that has Administrator privileges.
2. Sign in to Workplace.
3. Click **Author** , and then click **General Tools**.
4. Scroll down and click **Download Application Integration for Microsoft Office,** and then click **Save**. In the Save As dialog box, find a location on your machine in which to download and save the `ApplicationIntegration.exe` file locally, and then click **Save**.
5. Open a DOS command window and change the current directory to the one where `ApplicationIntegration.exe` resides.
6. Type the following at the command line:

```
ApplicationIntegration.exe /s/v"/qn <additional
msi arguments included in string>
LICENSE_ACCEPTED=true"
```

Use the /s switch to launch the execution silently and include the /qn switch in the msi string to make msi run silently.

See the following optional command line values you can also use. Append the values within the string containing the msi arguments. For example:

```
ApplicationIntegration.exe /s/v"/qn /L*v
C:\temp\AppIntSetup.txt LICENSE_ACCEPTED=true"
```

Command Line Values	Installs
ADDLOCAL=ALL	All Features
ADDLOCAL=ALL REMOVE=OutlookIntegrationFeature	Office Only
ADDLOCAL=ALL REMOVE=OfficeIntegrationFeature	Outlook Only
ADDLOCAL=ALL REMOVE=OutlookIntegrationFeature,OfficeIntegrationFeature	Core Only

Command Line Values	Settings
HOST=<host name>	Enter the name of the web server running Workplace.
PORT=<port number>	Enter the web server's assigned port number.
APPLICATION=<application name>	Enter the directory in which you installed the Workplace application files.

Command Line Values	Settings
SERVER_CONNECTION=1	Set Application Integration to use an https connection
SERVER_CONNECTION=0	Set Application Integration to use http connection. This is the default if this parameter is not passed.
SINGLE_SIGNON=0	Set Application Integration to not use single sign-on (SSO).
SINGLE_SIGNON=1	Set Application Integration to use single sign-on (SSO).
/L*v C:\temp\AppIntSetup.txt	Verbose installation log and specify log location.

Verifying your Workplace Application Integration installation

After you install Application Integration, you can verify your installation by trying the functions from within an integrated Microsoft application.

1. Start Microsoft Word.
2. From the **File** menu, click **FileNet P8**, click **Open Document**, and then click **Select Item**. The Logon dialog box opens.
3. Log on with any valid domain account. The available object stores in your environment are displayed.

   If you did not enter the Workplace Address information during the installation, you can enter the server name, port number, and application name that define the Workplace address. The server name is the name of the web server running Workplace, the port number is the assigned port of the web server, and the application is the directory where you installed the IBM FileNet P8 Workplace application files.

   Check Server uses secure connection (SSL) if you use a full SSL to encrypt all communication with Workplace. Do not select this option if you use a SSL redirect during logon.
4. Close all dialog boxes and close Microsoft Word.

Installing Workplace File Tracker

If you want to use the file tracking feature without installing Application Integration, you can install Workplace File Tracker. Complete the installation on each machine that will use Workplace File Tracker.

If you have already installed or upgraded to Application Integration 3.5.1-002 or higher, then the File Tracker feature has already been installed. Do not perform this procedure if you already installed a version of Application Integration that includes File Tracker, including Application Integration 4.0.

If you have already installed Application Integration 3.5.1-001 or earlier, upgrade it to 4.0 plus the latest fix pack, and this will include the File Tracker installation.

"Installing the File Tracker software interactively" on page 133
You can download File Tracker from Workplace. To run the File Tracker software installation, you must have Administrator privileges and use the General Author tools in Workplace.

"Installing the File Tracker software silently"
To install the File Tracker software silently, save the `FileTracker.exe` file locally and run it at the command line using the /s switch. You can include optional command line values when your run the installation program.

Installing the File Tracker software interactively

You can download File Tracker from Workplace. To run the File Tracker software installation, you must have Administrator privileges and use the General Author tools in Workplace.

To install File Tracker interactively:

1. Log on to the client machine using an account that has Administrator privileges.
2. Sign in to Workplace.
3. Click **Author**, and then click **General Tools**.
4. Scroll down and click **Download File Tracker** and do one of the following:
   - Click **Open** to run the program from its current location.
   - Click **Save**. In the Save As dialog box, find a location on your machine in which to download and save the `FileTracker.exe` file locally, and then click **Save**. After the file is saved to your hard drive, double-click the file to run the installer.

   The Welcome Wizard dialog box for File Tracker appears. Another Welcome dialog box appears.
5. Click **Next**.
6. Read the license agreement, and then select **I accept the terms to the license agreement**, and then click **Next**. If you do not accept the license agreement, you cannot continue with the install.
7. Do one of the following:
   - Click **Change** if you want to install File Tracker to a different location. Specify the location to which you want to install File Tracker, and then click **OK**. Click **Next**.
   - Click **Next** to accept the default location.
8. Click **Install**.
9. After the install is complete, click **Finish** to complete the setup process.
10. (On Vista using Internet Explorer 7.0 only) Add the Workplace URL to the browser security tab.
    a. In the Internet Explorer 7.0 browser, click **Tools** → **Internet Options**. Click the **Security** tab.
    b. Select Trusted Sites, and click the **Sites** button.
    c. Add the Workplace URL and click **Add**.
    d. Click **OK**, and **OK** again to save changes.

    If you want file tracking to be available to all users who have downloaded the File Tracker application, set the Enable file tracking preference in the site preferences. For more information, see **User Help** → **Actions, preferences, and tools** → **Site preferences** → **General preferences** → **File tracking**.

Installing the File Tracker software silently

To install the File Tracker software silently, save the `FileTracker.exe` file locally and run it at the command line using the /s switch. You can include optional command line values when your run the installation program.

To install File Tracker software silently:

1. Log in to the client machine using an account that has Administrator privileges and sign in to Workplace.
2. Click **Author**, and then click **General Tools**.
3. Scroll down and click **Download File Tracker** and click **Save**. In the Save As dialog box, find a location on your machine in which to download and save the `FileTracker.exe` file locally, and then click **Save** .
4. Open a DOS command window and change the current directory to the one that contains `FileTracker.exe`.
5. Type the following at the command line:

   ```
   FileTracker.exe /s /v"/qn <additional msi
   arguments included in string> LICENSE_ACCEPTED=true"
   ```

   Use the /s switch to launch the execution silently and include the /qn switch in the msi string to make msi run silently. In addition, be aware of spaces specified between switches in the above example. Using the correct spacing ensures a successful silent install.

   Refer to the following optional command line values you can also use. Append the values within the string containing the msi arguments.

   For example:

   ```
   FileTracker.exe /s /v"/qn /L*v
   C:\temp\FileTrackerSetup.txt LICENSE_ACCEPTED=true"
   ```

Command Line Values	Settings
/L*v C:\temp\FileTrackerSetup.txt	Verbose installation log and specific log location. If you intend to specify a log location, create the directory before running the silent install. If the directory is not created ahead of time, the install will fail.

6. (On Vista using Internet Explorer 7.0 only) Add the Workplace URL to the browser security tab as follows:
   a. In the Internet Explorer 7.0 browser, click **Tools** → **Internet Options**. Click the **Security** tab.
   b. Select Trusted Sites, and click the **Sites** button.
   c. Add the Workplace URL and click **Add**.
   d. Click **OK**, and **OK** again to save changes.

   If you want file tracking to be available to all users who have downloaded the File Tracker application, set the Enable file tracking preference in the site preferences. For more information, see **User Help** → **Actions, preferences, and tools** → **Site preferences** → **General preferences** → **File tracking**.

Deploying multiple Application Engine instances

You can deploy multiple instances of Workplace on a single application server. Each deployment of Workplace must use the same Content Engine, Process Engine, and connection point.

Each deployment of Workplace might use different Site Preference settings and might provide access to different object stores.

- The following procedure assumes that you have already installed Application Engine and performed the configuration tasks according to your application server type.

- When deploying multiple instances of Workplace, make copies of all the Workplace configuration and working files. Each instance of Workplace will use separate configuration, deploy, download, upload, and Workplace files. Leave the default installed files unmodified.
- For more information on how to deploy and manage multiple identical applications, see your application server documentation.

To deploy a second instance of the Workplace application:

"Deploying a second instance of Workplace"
Each deployment of Workplace might use different Site Preference settings and might provide access to different object stores.

"Deploying each additional Workplace instance as an EAR file" on page 136
You can choose to deploy your additional application instance as an EAR file. You must perform the additional configuration for each custom Workplace instance you plan to deploy.

Deploying a second instance of Workplace

Each deployment of Workplace might use different Site Preference settings and might provide access to different object stores.

To deploy a second instance of the Workplace application:

1. Make a copy of the `/FileNet/Config/AE` directory, including all of its contents, for each instance you plan to deploy. For example, if you are deploying two instances, you would create:

   install_path/FileNet/Config/AE1

   install_path/FileNet/Config/AE2
2. Make copies of the upload and download directories in the *install_path*/FileNet/AE directory. For example, you would create:

   install_path/FileNet/AE/Download1

   install_path/FileNet/AE/Upload1

   install_path/FileNet/AE/Download2

   install_path/FileNet/AE/Upload2
3. Make a copy of the deploy directory and all of its contents for each Workplace instance. For example, you would create:

   install_path/FileNet/AE/deploy1

   install_path/FileNet/AE/deploy2
4. Make a copy the Workplace directory and all of its contents for each Workplace instance. For example, you would create:

   install_path/FileNet/AE/Workplace1

   install_path/FileNet/AE/Workplace2
5. Navigate to each custom copied Workplace `web.xml` instance and update the path for the configuration directory, upload directory, and download directory locations.

   For example, in the *install_path*/FileNet/AE/Workplace1/WEB-INF/web.xml, you would make the following changes:

```
 <context-param>
  <param-name>configurationDirectory</param-name>
 <param-value>/opt/FileNet/Config/AE1</param-value>
</context-param>

 <context-param>
 <param-name>uploadDir</param-name>
```

```
 <param-value>/opt/FileNet/AE/Upload1</param-value>
</context-param>
<context-param>
  <param-name>downloadDir</param-name>
 <param-value>/opt/FileNet/AE/Download1</param-value>
</context-param>
```

Deploying each additional Workplace instance as an EAR file

You can choose to deploy your additional application instance as an EAR file. You must perform the additional configuration for each custom Workplace instance you plan to deploy.

1. Modify the `application.xml` file located in the copied deploy directories, as follows:
   a. Open each instance of the `application.xml` file, for example, *install_path*`/FileNet/AE/deploy1/META-INF/application.xml`.
   b. Change the <display-name> and the <context-root> elements to your custom name, for example, Workplace1 (shown in **bold**, below).
   ```
   <display-name> Workplace1 </display-name>
   <description>FileNet Application Engine</description>

   <module>
     <web>
     <web-uri>app_engine.war</web-uri>
     <context-root> Workplace1 </context-root>
    </web>
   </module>
   ```
2. In the `create_app_engine_war` file, set the install home and deploy directory to match your custom names.

   For example, you would make the following changes, shown in bold:
   ```
    install_home="/opt/FileNet/AE/  Workplace1 "
   "${install_home}/../_AEjvm/bin/jar" -cf "${install_home}/../
     deploy1 /app_engine.war"*
   ```
3. In the `create_app_engine_ear` file, set the install home, deploy directory, and EAR file to match your custom names.

   For example, you would make the following changes, shown in **bold**:
   ```
   install_home="/opt/FileNet/AE/  Workplace1 "
   cd "${install_home}/../  deploy1 "
    "${install_home}/../_AEjvm/bin/jar" -cvf "${install_home}/../
     deploy1/app_engine1.ear " META-INF *.war
   ```
4. Delete the existing `app_engine.war` and `app_engine.ear` files.
5. Create your custom WAR and EAR files by running the `create_app_engine_war` and then the `create_app_engine_ear` files.
6. Deploy the EAR file for each custom Workplace instance according to the procedures for your application server type.
7. Install any service packs, fix packs and/or interim fixes required. To determine whether such additional software updates are needed, contact your service representative.

Enabling Application Engine to use ISRA

Image Services Resource Adaptor (ISRA) is a J2EE connector to the IBM FileNet Image Services libraries. Using ISRA, Workplace users can view FileNet Image Services documents and their associated annotations in the FileNet Image Viewer and, if they have the appropriate permissions, update the annotations.

To enable Workplace users to view documents by using ISRA:

- Install Application Engine.
- Install FileNet Image Services Resource Adaptor.

  For information on installing, configuring and deploying FileNet ISRA, See the Image Services Resource Adapter documentation in the FileNet ISRA installation package.

  Tip: Use the Sample Application shipped with FileNet ISRA to confirm that the ISRA installation was successful.

  Important: In an ISRA upgrade situation, take care to use the same library name (JNDI connection factory name) that has been previously set in the ISRA installation. Changing this variable can cause conflicts when accessing documents.
- Install the Application Engine ISRA Servlet and take the following into account:
  - Install and deploy ISRA before installing and deploying the ISRA Servlet.
  - Deploy the ISRA Servlet on the same application server as FileNet ISRA.
  - It is not necessary to install the ISRA Servlet on the Application Engine server. See "ISRA SSL support" for details that might affect your collocation plans.
- Configure Workplace Site Preferences.

For information about accessing FileNet Image Services library documents, see **User Help → Actions, preferences and tools → Actions → Documents → Add a document (Workplace)**.

ISRA SSL support

The following table details supported SSL configurations for ISRA.

SSL Configuration	SSL Support
ISRA Servlet and Application Engine collocated. Application Engine configured for SSL logon redirect to a non-local host.	Supported
ISRA Servlet and Application Engine collocated. Application Engine configured for SSL logon redirect to a local host.	Supported
ISRA Servlet and Application Engine collocated. Application Engine and ISRA Servlet running under SSL.	Not Supported

SSL Configuration	SSL Support
ISRA Servlet remote from Application Engine. Application Engine configured for SSL logon redirect to a non-local host.	Supported
ISRA Servlet remote from Application Engine. Application Engine configured for SSL logon redirect to a local host.	Supported
ISRA Servlet remote from Application Engine. Application Engine running under SSL, ISRA Servlet not running under SSL.	Supported
ISRA Servlet remote from Application Engine. Application Engine and ISRA Servlet running under SSL.	Not Supported

Installing and deploying the Application Engine ISRA servlet

To install and deploy the ISRA Servlet on the operating systems supported by Application Engine, run the associated ISRA setup program found in the Application Engine software package.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

The Application Engine installation software contains the ISRA servlet installation programs for the supported Application Engine operating systems.

To install and deploy the Application Engine ISRA servlet:

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Content Engine values, filter by **ISRA Installer** in the **Installation or Configuration Program** column.
2. Log on to the application server by using the following account, depending on your operating system:

Option	Description
Windows	A member of the local Administrators group or as a user account with equivalent permissions.

3. Stop the application server if it is running.
4. Access the ISRA installation package, and start the following Application Engine ISRA Servlet setup program, depending on your operating system:

Option	Description
Windows	`AE-ISRA-Servlet-4.0.2.0-WIN.exe`

5. Complete the installation program screens by using the values from your worksheet.
6. Check the file `AE_ISRA_Servlet_install_log-4_0_2_0.txt`, located in the *AE_israservlet_install_path*`\FileNet` directory, to see if any errors occurred during the installation.
7. Install unlimited strength JAR files.

Perform this step only if the following are true:

- You selected the option to create Strong keys in the Application Engine User Token Security step of the Application Engine installation.
- Application Engine ISRA Servlet is deployed on a different application server than Application Engine.

Important: If these conditions are true, failure to perform this step causes an EncryptionException when you log on to the IS server.

8. (WebSphere Application Server and WebLogic Server only) Start the application server.
9. Deploy `AE_israservlet_install_path/FileNet/ApplicationEngineISRAServlet/ae_isra.war` in the same way you deployed the `app_engine.war` file for Workplace.
10. Verify the Application Engine ISRA Servlet is installed and deployed correctly, as follows. This step launches a diagnostic tool that does the verification.
    a. Open your web browser.
    b. Enter the URL for the Application Engine ISRA Servlet, for example:
       http://*ApplicationEngineISRAServlet_servername*:*port*/ApplicationEngineISRAServlet/ISRA

    ApplicationEngineISRAServlet is the default context root. If you specified a different name for the context root when deploying the Application Engine ISRA Servlet, change the URL to match your configuration.

    If the ISRA Servlet is set up correctly, a congratulations message displays, for example:

```
Congratulations! ISRA Interface Servlet is configured at this URL.

WcmApiConfigFile = D:\ISRAInterface\jsp\WEB-INF\WcmApiConfig.properties

WcmApiConfig file exists

CryptoKeyFile/UserToken = C:\Program
Files\FileNet\Authentication\UTCryptoKeyFile.properties

CryptoKeyFile/UserToken exists


FileNet ISRA classes are in the classpath

com.filenet.is.ra.cci.FN_IS_CciConnectionSpec
```

Configuring Workplace site preferences for ISRA

Before using the ISRA servlet, you must enable the FileNet Image Services external service and set the ISRA Interface Servlet URL in Workplace Site Preferences.

The Application Engine installation program installs the pre-configured Image Services external service, which includes the parameterized values necessary to access FileNet IS libraries from Workplace.

To configure Workplace Site Preferences for ISRA Servlet support:

1. Sign in to Workplace as a user having the Application Engine Administrators access role.
2. Launch Site Preferences as follows:
    a. Select **Admin**.

b. Select **Site Preferences**.
3. Enable the pre-configured Image Services external service, as follows:
   a. Select **External Services** from the left options list.
   b. Select **Modify** for the Image Service, located under External Reference Services.

      The External Reference Service Settings site preference page displays.
   c. Under General Information, locate **Show on Select File page** and change the value to Show.
   d. Accept the setting.
4. Set the ISRA Interface Servlet URL as follows:
   a. Select **Bootstrap**.
   b. Under Preferences Settings, set the value of ISRA Interface Servlet URL. For example:

      http://*servername*:*port*/ApplicationEngineISRAServlet/ISRA

      ApplicationEngineISRAServlet is the default context root. If you specified a different name for the context root when deploying the Application Engine ISRA Servlet, change the URL to match your configuration.
   c. Accept the setting.
   d. Exit Site Preferences.

Logging in to FileNet Image Services by using an LDAP account

In order to log in to FileNet Image Services by using your LDAP account, you must configure ISRA for LDAP authentication.

To log in to the FileNet Image Services library by using your LDAP account:
1. Configure ISRA for LDAP authentication.

   For information on configuring LDAP authentication for ISRA, See the *ISRA Installation and Deployment Guide*. For information on configuring LDAP authentication for FileNet Image Services, See the *Image Services System Tools Reference Manual*.
2. Configure FileNet Image Services for LDAP authentication.

   If the LDAP account with which you accessed Workplace is not valid for the FileNet Image Services library, or if LDAP authentication is not configured, you will be prompted to log in to the FileNet Image Services library.

Accessing FileNet Image Services library documents

For information about accessing FileNet Image Services library documents, see **User Help → Actions, preferences and tools → Actions → Documents → Add a document (Workplace)**.

Installing and configuring IBM System Dashboard for Enterprise Content Management

Content Engine, Application Engine, and Process Engine install, by default, the necessary software required for the System Manager performance component. To use System Manager, enable associated components and install IBM System Dashboard for Enterprise Content Management to perform related configuration procedures to enable System Manager.

Installing Dashboard is not necessary if you currently have IBM FileNet System Monitor installed.

See the following IBM FileNet P8 help topic **FileNet P8 Documentation** → **System Administration** → **Enterprise-wide Administration** → **System Manager** for instructions on how to enable the associated System Manager components.

See the documentation provided with IBM System Dashboard for Enterprise Content Management for instructions on how to use Dashboard.

Modifying an Autonomy K2 server configuration

You can add Autonomy K2 servers or move existing servers to new hardware.

"Adding additional K2 administration servers"
You must install additional Autonomy K2 Administration Servers to handle the indexing load. The Master Administration Server is the main hub for configuring all the servers you install. The additional servers are managed through the K2 Dashboard that is installed with the Master Administration Server.

"Moving Autonomy K2 servers to new hardware" on page 143
To move an existing installation of the Autonomy K2 Master Administration server configuration, the installation must be imaged and then restored on the new hardware. If any details of the new configuration do not match the previous configuration, the configuration will not work.

Adding additional K2 administration servers

You must install additional Autonomy K2 Administration Servers to handle the indexing load. The Master Administration Server is the main hub for configuring all the servers you install. The additional servers are managed through the K2 Dashboard that is installed with the Master Administration Server.

Important: A K2 Master Administration Server must be installed before you add additional K2 Administration Servers.

"Installing additional Autonomy K2 administration servers (Windows)"
You can install additional Autonomy K2 servers as part of a Content Search Engine configuration.

"Configuring additional K2 administration servers" on page 143
If you want to add and use additional K2 Index Servers or Search Servers in an existing configuration, you must enable them through Enterprise Manager.

Installing additional Autonomy K2 administration servers (Windows)

You can install additional Autonomy K2 servers as part of a Content Search Engine configuration.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

To install Content Search Engine:

1. Open your completed Installation and Upgrade Worksheet file.

   Tip: In the worksheet file, verify that the **Data** → **Filter** → **AutoFilter** command is enabled. To view only Content Search Engine values, filter by **CSE Installer** in the **Installation or Configuration Program** column.

2. Log on to the host machine as *k2_os_user*.
3. Install Content Search Engine interactively or silently:

   "Installing additional Autonomy K2 administration servers interactively (Windows)"
   To install Content Search Engine interactively, you run a program wizard.

   "Installing additional Autonomy K2 administration servers silently (Windows)"
   When you install Content Search Engine silently, you run a command in the Content Search Engine software package that references parameters in an installation text file.

Installing additional Autonomy K2 administration servers interactively (Windows):

To install Content Search Engine interactively, you run a program wizard.

To install Content Search Engine interactively:

1. Access the IBM FileNet P8 Content Search Engine installation package and run the `P8CSE-4.5.1WIN.EXE` file.
2. Complete the installation program screens by using the values in your worksheet.
3. Review the following Content Search Engine log files for installation errors. The files are located in the `verity` directory of the installation path:
   - *verity_install_path*`\cse_install_log_4_5_1.txt`
   - *verity_install_path*`\vconfig.log`

   It is a best practice to review log files even if the Content Search Engine installation program does not indicate any errors. Some errors noted in the log files are benign. If an error is not benign (that is, you cannot subsequently index or search for documents), refer to the log file for help in determining the cause.
4. Verify that the following two Windows services are installed on your machine after the installation finishes:
   - Verity K2 6.2.1 Administration Server service
   - Verity K2 Administration Web Server service (Tomcat server)

Installing additional Autonomy K2 administration servers silently (Windows):

When you install Content Search Engine silently, you run a command in the Content Search Engine software package that references parameters in an installation text file.

To install Content Search Engine silently:

1. Edit the `cse_silent_install.txt` file to reflect the appropriate responses for your installation by using the values from your worksheet.
2. Run the IBM FileNet P8 Content Search Engine installation program by executing the following command:
   ```
   P8CSE-4.5.1-WIN.EXE -f CSE_silent_install.txt -i silent
   ```
3. Review the following Content Search Engine log files for installation errors. The files are located in the `verity` directory of the installation path:
   - *verity_install_path*`\cse_install_log_4_5_1.txt`
   - *verity_install_path*`\vconfig.log`

It is a best practice to review log files even if the Content Search Engine installation program does not indicate any errors. Some errors noted in the log files are benign. If an error is not benign (that is, you cannot subsequently index or search for documents), refer to the log file for help in determining the cause.

4. Verify that the following two Windows services are installed on your machine after the installation finishes:
   - Verity K2 6.2.1 Administration Server service
   - Verity K2 Administration Web Server service (Tomcat server)

Configuring additional K2 administration servers

If you want to add and use additional K2 Index Servers or Search Servers in an existing configuration, you must enable them through Enterprise Manager.

1. Log on to Enterprise Manager as the GCD Administrator and expand the Enterprise Manager tree.
2. Open the Index Area folder.
3. Right-click the index area that you want to add the new services to and select **Properties**.
4. Enable the new Search Servers as follows:
   a. Click **Edit Search Servers**.
   b. In the Search Servers Available pane, highlight any servers you want to enable for this index area and click **Add** to add the server to the Search Servers Selected list.
   c. Click **OK** to save the settings and enable the new servers.
5. Enable the new Index Servers as follows:
   a. Click **Edit Index Servers**.
   b. In the Index Servers Available pane, highlight any servers you want to enable for this index area and click **Add** to add the server to the Index Servers Selected list.
   c. Click **OK** to save the settings and enable the new servers.

Moving Autonomy K2 servers to new hardware

To move an existing installation of the Autonomy K2 Master Administration server configuration, the installation must be imaged and then restored on the new hardware. If any details of the new configuration do not match the previous configuration, the configuration will not work.

To move K2 Master Administration Server software to new hardware:

1. Back up your Autonomy K2 Master Administration Server configuration.
2. Configure the new machine.
3. Restore your Autonomy K2 Master Administration Server installation.

"Moving K2 administration server software to new hardware" on page 144
Follow this procedure to maintain your existing configuration on new hardware. Alternatively, you can remove the server from your configuration (see procedure below) and then create a new configuration after installing the K2 Administration Server software.

"Removing K2 administration servers from your Content Search Engine configuration" on page 144
To remove K2 administration servers from your Content Search Engine configuration, remove the appropriate K2 Administration server from the dashboard configuration.

Moving K2 administration server software to new hardware

Follow this procedure to maintain your existing configuration on new hardware. Alternatively, you can remove the server from your configuration (see procedure below) and then create a new configuration after installing the K2 Administration Server software.

To move your existing configuration to new hardware, your new hardware must be configured the same as the previous machine. All drives and shares must be named the same and each server must have the same host name and IP addresses.

1. Take careful note of all aspects of your current Content Search Engine configuration. Record all share names, host names, server ports, and IP addresses. Record the server names and ports of all configured server services in the K2 Dashboard, and their locations.
2. If collections are stored on this machine, make a backup copy.
3. Set up your new hardware and ensure the machine host name and IP address match your previous configuration.
4. Follow the Add Additional K2 Administration Servers procedure above to install the K2 Administration Server software on the new machine.
5. Create the services for this machine in the K2 Master Administration Server dashboard and ensure all server services are named the same as your previous configuration and ensure all servers created in the Autonomy K2 Dashboard are named the same and configured for the same ports.

   You can change the ports; but if you do so, must reboot the Content Engine servers. The names of the search servers, index servers and brokers might not be changed for any items referenced by an index area on the CE.
6. Restore the collections to the same Root Dir Path (as specified in the index area properties) as before. If the collections are no longer available, mark those collections as unavailable, and then run a reindexing job on those collections. Otherwise copy/restore those collections via whatever tool you used to save them.
7. Modify the appropriate directory path entries in the `Verity.cfg` file.

Removing K2 administration servers from your Content Search Engine configuration

To remove K2 administration servers from your Content Search Engine configuration, remove the appropriate K2 Administration server from the dashboard configuration.

1. If collections were stored on the machine you want to remove:
   a. Determine which K2 Server will hold the collections. On that machine, create a new collections directory and temp directory and assign the appropriate permissions. For details, see “Creating a Content Search Engine collections directory” on page 74.

      Important: See the index area properties (Root Dir Path) for the collections location for the appropriate index area.
   b. Modify the appropriate directory path entries in the `verity.cfg` file.
   c. Move the collections to the new location.
2. Modify the index area to use the index servers and search servers of the machine to which the collections were moved.
3. Access the K2 Dashboard and remove the appropriate K2 Administration server from the dashboard configuration.

Installing the COM compatibility layer (CCL)

The option to install the COM compatibility layer is available as part of the IBM FileNet P8 Content Engine installer.

To install the COM Compatibility Layer (CCL) from the IBM FileNet Content Engine installer:

1. In the Choose Components dialog, select .NET Client, then click **Next**.
2. In the .NET API COM Compatibility Layer (CCL) Server URL dialog, enter a valid URL for the CCL (for example, http://localhost:9080/wsi/FNCEWS40MTOM/). Note that if you do not enter a valid URL, the CCL will not be installed.

If you do not install the CCL during the initial installation, you have the option of installing later by running the Content Engine installer again. You can also install the CCL anytime by using the Configuration Manager tool.

Part 2. Removing software

Removing IBM FileNet P8 software can involve deleting one or more core components, expansion products, and the FileNet P8 documentation.

For instructions on removing the Rendition Engine software, see the IBM FileNet P8 guide *FileNet P8 Documentation > FileNet P8 System Installation > Rendition Engine Installation and Upgrade*.

Removing the IBM FileNet P8 documentation

Removing the documentation for the FileNet P8 Platform and its expansion products involves a number of application server configuration possibilities. Use these examples only for reference. Your specific installation directories and application names might vary.

In some Windows installations where NTFS is used for the file system (Not FAT or FAT32), there is a known issue with deleting files (and folders) that are longer than 256 characters. For example, if you use a default WebSphere installation location, you might encounter an error where the FileNet P8 Platform documentation files cannot be properly deleted due to the number of characters in the file/folder names. See the Microsoft Knowledge Base article http://support.microsoft.com/?kbid=320081 for additional information about deleting files (and folders) in this environment.

Removing the FileNet P8 documentation from a WebLogic Server

To remove the FileNet P8 documentation from a WebLogic Server, delete all folders and files including any `temp` folder(s) or log files for the FileNet P8 documentation.

1. Log on to the WebLogic Server.

Option	Description
Windows	Log on with a user account that has local Administrative rights (or Account Operators and Server Operators).

2. Verify that the WebLogic Server is running.
3. From the WebLogic Server Administration Console (for example, http://<machinename>:7001/console), *Delete* the FileNet P8 documentation site (for example, `ecm_help`).
4. Delete all folders and files including any `temp` folder(s) or log files for the FileNet P8 documentation.

   Important: Do not remove any other FileNet P8 application (for example, Workplace) files that are installed on the web application server.

Removing Content Engine

You can uninstall an entire Content Engine installation or selected Content Engine components.

Uninstalling Content Engine does not undeploy it. You must use the application server console or commands to remove the Content Engine EAR file from the application server.

Use one of the following procedures to uninstall part or all of Content Engine.

"Removing part or all of a Content Engine installation interactively by using the Windows control panel"
You can remove part or all of a Content Engine installation.

"Removing Content Engine silently"
In silent mode, the uninstaller removes all Content Engine components.

"Removing data associated with Content Engine" on page 152
After uninstalling Content Engine, you can remove its associated data.

Removing part or all of a Content Engine installation interactively by using the Windows control panel

You can remove part or all of a Content Engine installation.

To remove Content Engine:l

1. Choose **Control Panel** → **Add/Remove Programs**.
2. Highlight P8 Content Engine in the list of currently installed programs and click **Change/Remove** to launch the Uninstall P8 Content Engine program.
3. In the Uninstall Options screen, choose to uninstall some or all Content Engine components.
4. In the Choose Components screen, choose which components to remove.
5. In the Uninstall Complete screen, note the directories and files that cannot be removed by the uninstall program and choose whether to have the program restart the machine, or restart it manually.
6. Remove the remaining directories and files, as noted in the Uninstall Complete screen.
7. If you want to completely remove all traces of the Content Engine installation, delete the `C:\Program Files\IBM\FileNet` directory.

Removing Content Engine silently

In silent mode, the uninstaller removes all Content Engine components.

To uninstall Content Engine silently, run one of the following commands:

Option	Description
Windows	`ce_uninstaller.exe -i silent`

Removing data associated with Content Engine

After uninstalling Content Engine, you can remove its associated data.

1. Use the application server console or command lines to undeploy Content Engine.
2. Use the application server console or command lines to remove any database JDNI data sources associated with Content Engine object stores.
3. Use your database tools to drop any databases or table spaces for the object stores and the GCD.
4. Use your LDAP tools to delete users and groups you created in *Plan and Prepare Your Environment for IBM FileNet P8*.
5. Use your operating system commands to delete any directories, users, and groups that were used for installing and administering Content Engine.
6. Use your operating system commands to delete any file-storage-area directories that contain content, such as documents.
7. User your operating system commands to delete any index-area directories (K2 collections).

Removing Content Search Engine

To completely remove 4.5 Content Search Engine (Autonomy K2) and collections from your IBM FileNet P8 Platform installation, you must disable full-text indexing. You must also remove the Autonomy K2 installations from all servers associated with the Content Engine.

Important:

- If you remove or disable Autonomy K2 before you disable CBR and full-text indexing in Enterprise Manager, your system is rendered unusable and require considerable reconstruction.
- This procedure presumes you have a running installation of version 4.5 Content Search Engine and that you have existing collections.
- If you intend to remove Content Engine, skip to 4.

To remove Autonomy K2 and CBR:

1. Launch Enterprise Manager.
2. Disable CBR for any classes that have been enabled for CBR.
   a. Right-click the class you want to configure and click **Properties**.
   b. Click the **General** tab.
   c. Clear the **CBR Enabled** check box and click **OK**.
   d. A dialog asks if you want to propagate this change to the subclasses of this class. Click **Yes**.
   e. Repeat this procedure to disable CBR for all classes.
3. Run an index job and reindex any of these objects that were previously enabled:
   - Document
   - Annotation
   - Custom Object
   - Folder

   The index job disables all full-text indexing and content-based retrieval settings and deletes any associated collections. After the index job is complete, continue with the next step.
4. As *k2_os_user*, log on to the Master Administration Server machine in your IBM FileNet P8 Content Search Engine configuration.
5. Complete the steps in the table to remove the Autonomy K2 software on the machine.

Option	Description
Windows	1. Access the Add or Remove Programs control panel and select **IBM FileNet P8 Content Search Engine**. 2. Click **Change/Remove**.

6. Delete `verity_install_path` on the machine.
7. Repeat 5 and 6 for each remaining machine in your IBM FileNet P8 Content Search Engine configuration.

Removing additional locales (Windows)

Remove the additional locales that you installed on Windows machines.

To remove locales:

1. Click **Start** → **Add or Remove Programs**.
2. To remove all single-language locales, select **Verity Locales 6.1**. Then right-click, and select **Uninstall**.
3. To remove all European locales, select **Verity Single-Language European Locales 6.1**. Then right-click and select **Uninstall**.

Removing Process Engine (Windows)

Removal of the Process Engine for Windows platforms requires that you remove the software components in a specific order.

Important: You must remove the software in the order listed. If you remove FileNet Image Services before you remove Process Engine, the Process Engine software will be left in a state that will not allow removal with this procedure.

To remove the Process Engine software:

1. Stop all of the following components that are running. For procedures and further details, see the IBM FileNet P8 help topic **System Administration** → **Enterprise-wide Administration** → **Shutdown and Startup**.

Component	Server
Process Simulator	Process Simulator
Process Analyzer	Process Analyzer
Component Manager	Application Engine
Application Engine	Application Engine
Content Engine	Content Engine
Process Service	Process Engine
Process Task Manager	Process Engine or Application Engine

2. Navigate to **Control Panel** → **Add/Remove Programs**.
3. Click **Remove** for the Process Engine application.
4. Click **Next** at the Welcome screen for Process Engine uninstallation.
5. Click **Next** to stop FileNet BPM software components.
6. Click **Uninstall** to confirm you want to remove Process Engine for Windows 4.5.0 installation.
7. Indicate whether you want to reboot now or later.
8. Click **Finish** after you've read the summary information.
9. Click **Remove** for the FileNet Image Services 4.1.2 software.
10. Enter `Yes` to confirm you want to remove the FileNet Image Services software.
11. Press Enter to continue with the removal.
12. Close the Add/Remove snap-in.
13. Close the Control Panel.

Important: (Microsoft SQL Server only) If you plan to reinstall Process Engine and will configure Process Engine to use a different SQL Server database, you must remove the database that was configured for the Process Engine installation. In addition, you must remove the following FileNet user IDs from the SQL Server Security folder before you reinstall Process Engine software:

- f_sw
- f_maint

Removing Application Engine (WebLogic)

Removal of the Application Engine for WebLogic on UNIX and Windows platforms requires that you log on to the application server and run the uninstall program.

To remove the Application Engine software:

1. Log on to the application server.

Option	Description
Windows	Log on as a member of the local Administrators group or a user with equivalent permissions.

2. Undeploy the Workplace application.
   a. Stop the Workplace Web Application Module.
   b. Delete the Workplace Web Application Module.
3. Navigate to the `/_uninst` folder under the Application Engine installation location.
4. Run the uninstall program:

Option	Description
Windows	`uninstaller.exe`

   Tip: For Windows, you can also use Add/Remove Programs from the Control Panel to remove Application Engine.

   On Windows, when you click **Next** on the Application Engine Uninstaller Welcome screen, the second screen asks you to wait while Windows Task Manager service shuts down before continuing the uninstall. This can take a few moments. Wait for the shutdown to complete, then complete the uninstall wizard from the next screen.
5. Delete the *`AE_install_path`* directory.
6. (If Application Engine is the only IBM FileNet P8 application installed on the server) Search for the `vpd.properties` file. If it exists, delete it.

Removing the Application Engine ISRA servlet

Removal of the Application Engine ISRA Servlet for Windows and UNIX environments requires that you logon to the application server, undeploy the servlet, and run the uninstall program.

Since the installed names for the ISRA Servlet are configurable on the supported application servers, the following information might not be the same as your environment. Make the appropriate name changes as required for your environment.

To remove the Application Engine Servlet software:

1. Log on to the application server.

Option	Description
Windows	Log on as a user with Administrative rights.

2. Undeploy the ApplicationEngineISRAServlet application. This step is similar to that required to undeploy the Workplace application.

Option	Description
Oracle WebLogic Server	1. Stop the ApplicationEngineISRAServlet Web Application Module. 2. Undeploy or delete the ApplicationEngineISRAServlet Web Application Module.

3. Navigate to the `/_uninstISRA` directory under the ISRA Servlet installation location.
4. Run the uninstall program:

Option	Description
Windows	`uninstall.exe`

   Tip: For Windows, you can also use Add/Remove Programs from the Control Panel to remove the FileNet Application Engine ISRA Servlet.

5. Navigate to the `/FileNet` directory. If there is no other FileNet software installed under this directory, delete the `/FileNet` directory. If there is some other FileNet software installed under this directory, delete only the `/ApplicationEngineISRAServlet` subdirectory.

Removing Workplace Application Integration

You can remove Application Integration by using the Microsoft Windows Control Panel, or you can remove the program files silently from the command line.

"Removing or modifying Workplace Application Integration interactively"
You can use Microsoft Windows Control Panel to remove, repair, or modify Workplace Application Integration.

"Removing Workplace Application Integration silently"
To silently uninstall Workplace Application Integration run `msiexec.exe /X{35907B7D-02E2-490C-8F3B-54C4E3729D90} /qn` at the command line.

Removing or modifying Workplace Application Integration interactively

You can use Microsoft Windows Control Panel to remove, repair, or modify Workplace Application Integration.

To remove Application Integration:

1. Select **Start** → **Settings** → **Control Panel** → **Add/Remove Programs** → **FileNet Workplace Application Integration 4.0**.
2. Select the operation to perform:
   - Click **Remove**, and then click **Yes** to confirm you want to uninstall Workplace Application Integration.
   - Click **Change** to access maintenance tasks, and then click **Next**. You can modify, repair, or remove Application Integration using the maintenance tasks.

     Select the task to perform:
     - Select **Modify** to add or remove integration with Microsoft applications from your previous install. For example, if you have both Microsoft Office and Outlook installed, you can remove one of the applications by using this option. The Custom Setup dialog box opens, where you select the option you want to add or remove. Click **Next** , and then click **Install**. Click **Finish** to complete the process.
     - Select **Repair** to re-install Workplace Application Integration to repair installation errors, and then click **Next**. Click **Install** to start the repair process. Click **Finish** to complete the process.
     - Select **Remove** to remove Workplace Application Integration from your system, and then click **Next**. Click **Remove**. After the application is removed from your system, click **Finish** to complete the process.

Removing Workplace Application Integration silently

To silently uninstall Workplace Application Integration run `msiexec.exe /X{35907B7D-02E2-490C-8F3B-54C4E3729D90} /qn` at the command line.

1. Open a command prompt.
2. Enter the following command to uninstall Workplace Application Integration:

```
msiexec.exe /X{35907B7D-02E2-490C-8F3B-54C4E3729D90} /qn
```

Removing Workplace File Tracker

You can remove File Tracker by using the Microsoft Windows Control Panel, or you can remove the program files silently from the command line.

"Removing Workplace File Tracker interactively"
You can use the Microsoft Windows Control Panel to uninstall Workplace File Tracker.

"Removing Workplace File Tracker silently"
You can use a command line option to silently uninstall Workplace File Tracker.

Removing Workplace File Tracker interactively

You can use the Microsoft Windows Control Panel to uninstall Workplace File Tracker.

1. From the **Start** menu, click **Settings**, and then click **Control Panel**.
2. Click **Add/Remove Programs**, and then click **FileNet Workplace File Tracker**.
3. Click **Remove**, and then click **Yes** to confirm you want to uninstall Workplace File Tracker.

Removing Workplace File Tracker silently

You can use a command line option to silently uninstall Workplace File Tracker.

1. Open a command prompt.
2. Enter the following command to uninstall Workplace File Tracker:

```
msiexec.exe /X{4291FBBC-C585-43ED-9416-5F22D8C6FEE9} /qn
```

Part 3. Appendixes

Appendix A. Configuration Manager reference

Configuration Manager is a tool for configuring and deploying new or upgraded instances of the Content Engine application on an application server.

You use Configuration Manager to define the following information for the Content Engine instance:
- Application server properties
- Java Database Connectivity (JDBC) data source properties for the Global Configuration Data (GCD) database
- Java Database Connectivity (JDBC) data source properties for each object store database
- Directory service (LDAP) provider properties
- Content Engine application login modules
- Content Engine bootstrap properties

“Overview of Configuration Manager”
You can use Configuration Manager to generate one or more unique Content Engine configuration profiles. A profile is a collection of information required to configure and deploy new or upgraded Content Engine instances.

“Handling passwords in Configuration Manager” on page 173
To provide the highest possible security, Configuration Manager's default settings do not save passwords from the GUI application. The password save setting is a preference setting in the Configuration Manager graphical interface. While the default setting provides greater password security, it does require you to reenter all necessary passwords each time you start the GUI. When you close a profile in Configuration Manager, the passwords are removed from memory. When you open Configuration Manager or the profile again to run a saved task, you will must reenter passwords to run the tasks.

“Accessing the Configuration Manager log files” on page 173
Configuration Manager maintains three types of log files: the Configuration Manager session log, the Configuration Managererror log, and the task status file.

“Configuration Manager user interface reference” on page 174
The Configuration Manager graphical user interface (GUI) lets you create, view, and edit your Content Engine configuration profile. You can also make a copy of an existing profile, run configuration tasks, view the session logs, and check the status of a particular task.

“Configuration Manager command-line reference” on page 191
Configuration Manager can be run from a command line. This section covers the syntax for the command-line version of Configuration Manager.

Overview of Configuration Manager

You can use Configuration Manager to generate one or more unique Content Engine configuration profiles. A profile is a collection of information required to configure and deploy new or upgraded Content Engine instances.

“Configuration profile concepts” on page 170
The information for a profile is collected in XML files in the form of properties and values that describe the associated configuration and deployment tasks.

You must provide values for the profile properties that are specific to each configuration at your site, such as the application server name.

"Using the graphical and command-line user interfaces" on page 172
Both the graphical user interface (GUI) and the command-line interface (CLI) create the configuration XML files with the property values specific to your site, run tasks to apply your settings, display task status results, and deploy the Content Engine application.

"Gathering Configuration Manager values by using the installation and upgrade worksheet" on page 172
You can use the installation and upgrade worksheet to record the values that you must enter in Configuration Manager.

Configuration profile concepts

The information for a profile is collected in XML files in the form of properties and values that describe the associated configuration and deployment tasks. You must provide values for the profile properties that are specific to each configuration at your site, such as the application server name.

The XML files are stored in a directory that is unique to a given profile. Because the profile name is used for both the directory name and the configuration file name, you must provide a profile name that is a valid directory name for your operating system. By default, the profiles are stored in the `ce_install_path/tools/configure/profiles` directory, where *ce_install_path* is the location where Content Engine is installed.

If needed, you can create multiple profiles, each of which supports a unique Content Engine instance. These instances can be located on the same server or on different servers, depending on your deployment preferences, the managed or non-managed nature of your application servers, and your clustering or high-availability requirements.

Use Configuration Manager to perform the following tasks that are associated with a Content Engine configuration profile:

- **Set the application server properties**. Content Engine will be deployed as an application on the application server. You must specify the application server type, the software version number, the server name, the administrative user name and password, and other settings. The application server type determines some of the properties and their default values. All profiles include the application server properties. By default, the application server properties are stored in the `ce_install_path/tools/configure/profiles/myprofile/applicationserver.xml` file, where *myprofile* is the name of your profile.

  You provide the application server properties when you create a profile by using the Create New Installation Profile wizard, and you can edit the application server properties at any time as needed. See "Creating a profile for a new installation" on page 182 or "Editing the application server properties" on page 184 for detailed procedures.
- **Configure the Java Database Connectivity (JDBC) data sources**. The JDBC data source information is used by Content Engine to connect to Global Configuration Data (GCD) and object store databases. The application server uses the JDBC data source information to connect Content Engine to the database. You must specify the JDBC provider type, the database name, the database user name and password, and other settings. The JDBC provider type determines some of the properties and their default values. By default, the JDBC properties are stored in the `ce_install_path/tools/configure/profiles/`

myprofile/configurejdbcgcd.xml file or the the *ce_install_path*/tools/configure/profiles/*myprofile*/configurejdbcos.xml file, where *myprofile* is the name of your profile.

See "Editing the configure JDBC data source task" on page 184 for the procedure to set the JDBC data source properties after you have created a profile.

- **Configure the application login modules**. The login modules provide authentication information for the Content Engine application. Run this task to create the login modules on the application server.

  See "Editing the configure LDAP task" on page 185 for the procedure to create the login modules after you have created a profile.

- **Configure the directory service (LDAP) provider**. Content Engine connects to the directory service provider to authenticate users. Because the application server uses the directory service information to connect the Content Engine to the directory service provider, you cannot skip this task even if you have already configured your application server prior to installing Content Engine. You need to specify the directory service provider type, the user and group naming conventions for your provider, the directory service user name for the Content Engine to use for authentication, and other settings. The LDAP provider type that you select determines some of the properties and their default values. By default, the LDAP properties are stored in the *ce_install_path*/tools/configure/profiles/*myprofile*/configureldap.xml file, where *myprofile* is the name of your profile.

  See "Editing the configure LDAP task" on page 185 for the procedure to set the LDAP properties after you have created a profile.

- **Configure the Content Engine bootstrap settings**. The bootstrap information is needed for creating the Global Configuration Data and for starting Content Engine. By default, the bootstrap properties are stored in the *ce_install_path*/tools/configure/profiles/*myprofile*/configurebootstrap.xml file, where *myprofile* is the name of your profile.

  See "Editing the configure bootstrap properties settings" on page 185 for the procedure to set the bootstrap properties after you have created a profile.

- **Deploy the Content Engine application**. This action deploys the Content Engine EAR file with the JDBC, LDAP, and bootstrap settings on the application server. Any time that you update the properties for an existing deployed Content Engine instance or update the Process Engine Client files on the Content Engine, you must redeploy for the changes to take effect. By default, the deployment properties are stored in the *ce_install_path*/tools/configure/profiles/*myprofile*/deployapplication.xml file, where *myprofile* is the name of your profile.

  Tip: After you deploy the Content Engine application, you use Enterprise Manager to customize Content Engine for your site's requirements.

  See "Editing the deploy application task" on page 186 for the procedure to edit the deployment properties after you have created a profile.

- Check the status of a particular configuration task. Status messages are displayed when you run a task. You can also explicitly display the task status any time after you run the task. See "Checking the task status" on page 190.

- **Configure a profile for upgrading an existing Content Engine from 4**. An upgrade profile includes the Upgrade Bootstrap task and the Deploy Application task. By default, the upgrade bootstrap properties are stored in the *ce_install_path*/tools/configure/profiles/*myprofile*/upgradebootstrap.xml file, and the deployment properties are stored in the `ce_install_path/tools/configure/profiles/myprofile/deployapplication.xml` file, where *myprofile* is the name of your profile.

See "Creating a profile for a new installation" on page 182 for a detailed procedure.

Using the graphical and command-line user interfaces

Both the graphical user interface (GUI) and the command-line interface (CLI) create the configuration XML files with the property values specific to your site, run tasks to apply your settings, display task status results, and deploy the Content Engine application.

Configuration Manager has a GUI and a CLI. The GUI version of the tool displays the properties and default values that you must set. When you save your changes in the GUI tool, the configuration XML files are updated for you. If you use the CLI version of the tool, you must first generate the configuration XML files with the tool, and then manually edit the default values in the files using a text editor. After you edit the files, you use Configuration Manager to run the tasks to apply the saved settings. After you have set the required values, you use either version of Configuration Manager to deploy the Content Engine application.

The configuration XML files that you create with either version of the Configuration Manager tool can be used with the other version. For example, you can create the files with the CLI version, and then use the GUI version to open the profile, edit the values, and run the configuration tasks.

Gathering Configuration Manager values by using the installation and upgrade worksheet

You can use the installation and upgrade worksheet to record the values that you must enter in Configuration Manager.

Be sure that you have available the Installation and Upgrade Worksheet that was completed during your planning activities.

To see only the properties you must specify for Configuration Manager:
1. Open your completed Installation and Upgrade Worksheet file.
2. Verify that the **Data** → **Filter** → **AutoFilter** command is enabled.
3. Filter by one of the following Configuration Manager options in the **Installation or Configuration Program** column:
   - **CM: config_mgr_user**
   - **CM: Create New Installation Profile**
   - **CM: Configure GCD JDBC Data Sources**
   - **CM: Configure Object Store JDBC Data Sources (object store 1)**
   - **CM: Configure LDAP**
   - **CM: Configure Bootstrap Properties**
   - **CM: Deploy Application**
   - **CM: Upgrade bootstrap**
   - **CM: Upgrade Configuration Profile**

Handling passwords in Configuration Manager

To provide the highest possible security, Configuration Manager's default settings do not save passwords from the GUI application. The password save setting is a preference setting in the Configuration Manager graphical interface. While the default setting provides greater password security, it does require you to reenter all necessary passwords each time you start the GUI. When you close a profile in Configuration Manager, the passwords are removed from memory. When you open Configuration Manager or the profile again to run a saved task, you will must reenter passwords to run the tasks.

The following passwords are used to run the tasks:

- The application server administrator password. Select **File** → **Edit Application Server Properties** to enter the password.
- The database administrator password. Edit the **Configure GCD JDBC Data Sources** task or the **Configure Object Store JDBC Data Sources** task.
- The directory service bind user password. Edit the **Configure LDAP** task.
- The bootstrap user password. Edit the **Configure Bootstrap** task.

The Configuration Manager command line passes the passwords from an XML configuration file to the required application when you run a task. You can use the **storepasswords** command to add encrypted passwords to the XML files, or you can enter plain text passwords when you edit the files. However, saving the passwords to the XML files might not be FIPS 140-2 compliant.

If you later use the Configuration Manager GUI to open a profile with an XML configuration file that you manually edited, the GUI version reads the passwords in the XML file, and will overwrite the existing passwords when you save the file. If the GUI is not configured to save passwords (default setting), the passwords in the XML file will be overwritten with a blank entry. If the GUI is configured to save passwords, the original values or any changed values are encrypted and saved to the XML file.

Accessing the Configuration Manager log files

Configuration Manager maintains three types of log files: the Configuration Manager session log, the Configuration Managererror log, and the task status file.

- The Configuration Manager session log file. The session log contains brief information about the tasks that were run in the current session of the Configuration Manager graphical user interface (GUI). As you run additional tasks for the same or a different profile, new messages are added to the log. The messages in the session log are not time-stamped. When you exit Configuration Manager, the session log is cleared. You can view the session log from within the GUI, or you can open the session log file in a text editor:

  `*ce_install_path*/tools/configure/logs/P8ConfigMgr_Console.log`

  For more information about viewing the session log, see "Checking the task status" on page 190.
- The Configuration Manager error log. The error log contains details about any error occurring during execution of a task. The error messages are time-stamped, and include more information than is displayed in the session log. Unlike the session log, the error log is cumulative and contains data for more than one session. You can open the error log file in a text editor:

  ce_install_path/tools/configure/logs/P8Installer_common.log error.

- Task status file. When you run a task in Configuration Manager, the task execution messages are displayed in the Console pane (GUI) or on the command line (CLI), and the status messages are written to a text file in the following directory:

  `ce_install_path/tools/configure/profiles/myprofile/status`

  The file name is based on the task that was run. You can check the status on a task at any time to review the status completion messages. For more information about checking the task status from the GUI, see "Checking the task status" on page 190. For more information about checking the task status from the CLI, see "Running Configuration Manager commands" on page 191.

Configuration Manager user interface reference

The Configuration Manager graphical user interface (GUI) lets you create, view, and edit your Content Engine configuration profile. You can also make a copy of an existing profile, run configuration tasks, view the session logs, and check the status of a particular task.

Restriction: If you need an accessible version of Configuration Manager, use the command line interface instead of the GUI. See "Configuration Manager command-line reference" on page 191.

Starting Configuration Manager

You can start the graphical interface version of Configuration Manager to configure a Content Engine application instance on a web application server.

To start Configuration Manager:

1. Start Configuration Manager by running one of the following commands, depending on the operating system that runs on the machine where you installed Content Engine:

Option	Description
Windows	Perform one of the following actions: • Double-click the **FileNet Configuration Manager** desktop shortcut. • Click **Start** → **All Programs** → **IBM FileNet P8 Platform** → **FileNet Configuration Manager**. • Run the following command: `ce_install_path\tools\configure\configmgr.exe`

The first time that you start Configuration Manager, the Welcome is displayed.

2. Select one of the links in the Welcome to learn more or to start working in a wizard, or close the Welcome by clicking the **X** in the tab at the upper left. You can reopen the Welcome later, as needed, from the **Help** menu.

Configuration Manager window

The default Configuration Manager window consists of the Content Engine Task View pane on the left side, the Task Editor pane on the upper right side, and the Console pane on the lower right side. You can drag, resize, and rearrange the panes to change the location if needed.

The following table describes each pane:

Pane	Description
Content Engine Task View	Displays a profile and the tasks for that profile. Only one profile can be open at a time.
Task Editor	Displays the properties and values for a selected task. The Task Editor pane is empty until a specific task is selected from the Content Engine Task View pane. Each open task is displayed in a separate tab in the Task Editor pane. More than one task tab can be displayed at a time.
Console	Displays task execution messages, results from the Check Status command, or the session log.

To move from one open task tab in the Task Editor pane to another open task tab, press `Ctrl-F6`.

To move from one pane to the next, press `Ctrl-F7`.

To restore a closed pane, select **Window** → **Show View**.

"Main toolbar" on page 176
The Configuration Manager main toolbar is located just below the menu bar. The main toolbar contains multiple icons for working with your profiles.

"Profile toolbar" on page 176
The Configuration Manager profile toolbar is located at the upper right of the Content Engine Task View pane. The profile toolbar contains multiple icons for working with a selected profile.

“Task toolbar” on page 177
The Configuration Manager task toolbar is located at the upper right of the Task Editor pane when a Task tab is open.

“Console toolbar” on page 177
The Console toolbar is located at the upper right of the Console pane. The Console toolbar contains the multiple icons for working with the Console pane.

Main toolbar

The Configuration Manager main toolbar is located just below the menu bar. The main toolbar contains multiple icons for working with your profiles.

Icon	Command name and Description
	New Installation Profile Click this icon to create a profile for a new installation. The current configuration profile will be closed, and the New Configuration Profile Wizard starts. If the existing open profile has been changed, you will be prompted to save your changes.
	New Upgrade Profile Click this icon to create a profile for upgrading an existing Content Engine server. The current configuration profile will be closed, and if there have been changes, you will be prompted to save your changes. The New Configuration Profile Wizard starts.
	Open Profile Click this icon to open an existing profile. The current configuration profile will be closed, and if there have been changes, you will be prompted to save your changes.
	Save Click this icon to save the current configuration profile settings.
	View Configuration Manager Log File Click this icon to view the Configuration Manager session log. The session log is cleared when you open Configuration Manager or when you close a profile.

Profile toolbar

The Configuration Manager profile toolbar is located at the upper right of the Content Engine Task View pane. The profile toolbar contains multiple icons for working with a selected profile.

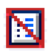
Icon	Command name and Description
	Edit Application Server Properties Click this icon to view or edit the application server properties for the current profile.

Icon	Command name and Description
	Run All Tasks Click this icon to run all the enabled tasks for the current profile.

Task toolbar

The Configuration Manager task toolbar is located at the upper right of the Task Editor pane when a Task tab is open.

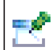
The task toolbar contains the following icons for working with the current task:

Icon or Button	Command Name and Description
	Enable the Selected Task Click this icon to enable a task. The Run All Tasks command only runs tasks that are enabled.
	Disable the Selected Task Click this icon to disable a task. The Run All Tasks command only runs tasks that are enabled.
	Save Click this icon to save the current task.
Test Database Connection	Test Database Connection Configure GCD JDBC Data Sources task or Configure Object Store JDBC Data Sources task tab only. Click this button to test the connection to the database by using the values provided.
Test LDAP Connection	Test LDAP Connection Configure LDAP task tab only. Click this button to test the connection to the directory service provider by using the values provided.

Console toolbar

The Console toolbar is located at the upper right of the Console pane. The Console toolbar contains the multiple icons for working with the Console pane.

Icon	Command name and Description
	Clear Console Click this icon to clear the display for the currently active tab in the Console pane. Clearing the display does not affect any log contents.

Icon	Command name and Description
	Scroll Lock Click this icon to enable or disable the scroll bars for the currently active tab in the Console pane. When the scroll bars are locked, information in the console might scroll out of view.
	Pin Console Click this icon to lock or unlock the current console location. When pinned (or locked), you cannot move the Console pane to a new location or resize the Console pane.
	Display Selected Console Click this icon to select the console tab to display. Select the desired tab from the list of recently viewed consoles.
	Open Console Click this icon to new tab with the current Console view. For example, you can open a second tab for execution messages for the Deploy Application task.

Configuration Manager menus and commands

You can access the Configuration Manager commands through the menu or by right-clicking an item. The following tables describe the available commands.

Main menu

The following table lists the menus and commands that are available in Configuration Manager.

Table 14. Main Menu Commands

Menu name	Command name	Description
File		Provides commands for creating, saving, or opening a configuration profile.
	New Installation Profile	Creates a profile for a new installation. See "Creating a profile for a new installation" on page 182 for detailed procedures to create a profile.
	New Upgrade Profile	Creates a profile for upgrading Content Engine. See "Creating a profile for a new installation" on page 182 for detailed procedures to create a profile.
	Open Profile	Opens an existing profile for viewing or editing. Keyboard shortcut: Ctrl+O
	Close Profile	Closes the current profile.
	Save	Saves your changes to the active task. Keyboard shortcut: Ctrl+S

Table 14. Main Menu Commands (continued)

Menu name	Command name	Description
	Save All	Saves your changes to all open tasks. Keyboard shortcut: Ctrl+Shift+S
	Save Copy of Profile As	Saves the current profile with a new name or path.
	Edit Application Server Properties	Opens the Edit Application Server Properties wizard for editing the application server values for the profile. Keyboard shortcut: Ctrl+U
	Run All	Runs all of the tasks in the profile to apply your settings. If a particular task is disabled, that task is skipped when you select Run All Tasks. Keyboard shortcut: Ctrl+R
	Exit	Closes Configuration Manager.
Window		Provides commands for viewing a log file, changing the view in a Configuration Manager pane, and setting preferences
	View Log File	Provides commands that give you access to logs and various views of information.
	Show View	Displays the session log in the Console pane. The session log lists results from tasks that you have run since you opened the current profile.
	Preferences	Provides choices for determining the behavior of Configuration Manager, such as the password save preference and the warning message preference.
Help		Displays help pages about Configuration Manager.
	Welcome	Provides a quick introduction to the use of Configuration Manager.
	Help Contents	Provides reference information for Configuration Manager.
	About Configuration Manager	Displays the copyright and related information about Configuration Manager.

Pop-Up menus

The pop-up menus are displayed when you right-click an item in Configuration Manager.

Table 15. Profile Icon Pop-Up Menu Commands

Command	Description
Edit Application Server Properties	Opens the Edit Application Server Properties wizard for the profile.
Add New Task > Configure JDBC Data Sources	Adds a New_Configure JDBC Data Sources task to the profile.
Add New Task > Configure LDAP	Adds a New_Configure LDAP task to the profile.

Table 15. Profile Icon Pop-Up Menu Commands (continued)

Command	Description
Add New Task > Configure Bootstrap	Adds a Configure Bootstrap task to the profile.
Run All	Displays a sub-menu of the tasks associated with the profile. Click the task name that you want to run.
Close Configuration Profile	Closes the configuration profile.

Table 16. Task Icon Pop-Up Menu Commands

Command	Description
Edit Selected Task	Opens the task in the task pane for editing.
Enable Selected Task Disable Selected Task	Toggles the state of the task between enabled and disabled. Any task that is disabled will not run with either the **Run Selected Task** command or the Run All Tasks command. If the task is currently enabled, selecting the **Disable Selected Task** command prevents the task from running, changes the font for the task icon to italic, and appends "(disabled)" to the icon label. If the task is currently disabled, selecting the **Enable Selected Task** command allows the task to run, restores the original font, and removes "(disabled)" from the icon label.
Copy the Selected Task	Creates a copy of the selected task. This command is available only for the Configure JDBC Data Sources and the Configure LDAP tasks.
Add New Task > Configure JDBC Data Sources	Adds a Configure JDBC Data Sources task to the profile. You can have multiple Configure JDBC Data Sources tasks in a profile.
Add New Task > Configure Login Modules	Adds a Configure Login Modules task to the profile. You can only have one Configure Login Modules task in a profile.
Add New Task > Configure LDAP	Adds a Configure LDAP task to the profile. You can have multiple Configure LDAP tasks in a profile.
Add New Task > Configure Bootstrap Properties	Adds a Configure Bootstrap Properties task to the profile. You can have multiple Configure Bootstrap Properties tasks in a profile.
Add New Task > Deploy Application	Adds a Deploy Application task to the profile. You can only one Deploy Application task in a profile.
Reset Selected Task Status	Resets the status of the task to indicate that it has not yet been run.
Check Task Status	Displays the current status of the task.
Rename Task	Opens an edit window in which you can change the name of the label associated with the task.
Delete the Selected Task	Deletes the task from the profile. You cannot delete a task if it is open for editing in the task pane.
Move Selected Task Up	Moves the selected task up in the list of tasks.
Move Selected Task Down	Moves the selected task down in the list of tasks.

Working with Configuration Manager

You can use the Configuration Manager commands, icons, and panes to work with your profiles and configuration tasks.

"Configuring a Content Engine instance" on page 182
You can use the Configuration Manager graphical user interface to configure a Content Engine instance.

"Setting the password save preference" on page 182
By default, the Configuration Manager password save preference is set to not save passwords to a file. If your site security requirements permit you to save passwords to a file, you can change the password save preference setting.

"Creating a profile for a new installation" on page 182
You must create a new configuration profile for each Content Engine application that you deploy.

"Opening and closing an existing profile or task" on page 183
You can save a profile, and open it later to edit the saved settings or to run tasks.

"Editing the application server properties" on page 184
You initially provide the application server properties when you create a new profile. You can open the application server properties for editing at any time, but you cannot change the application server type for an existing profile. The application server properties must be set before you run any tasks.

"Editing the properties for a specific task" on page 184
You must provide the required property values for each task in your profile before you run the task.

"Applying the property settings by running a specific task" on page 186
You must run a task to apply the values that you provided.

"Adding an additional task to your profile" on page 188
A profile can contain an unlimited number of tasks. You can configure more than one Configure Object Store JDBC Data Sources task, more than one Configure LDAP task, or more than one Configure Bootstrap Properties task. You can add a new task for a task type that you do not already have in the profile.

"Deleting a task from a profile" on page 189
You can delete any unneeded tasks from your profile.

"Running all tasks at the same time" on page 189
You can run all the tasks in a profile at the same time. Disabled tasks will not run.

"Running a single task" on page 189
You can run each configuration task individually. Disabled tasks will not run.

"Checking the task status" on page 190
Task execution messages are displayed in the console pane when you run a task, and you can view the status of a specific task at any time.

"Viewing the session log" on page 190
The session log contains information about the tasks that were run in the current session of Configuration Manager. As you run additional tasks for the same or a different profile, new messages are added to the log. When you exit Configuration Manager, the session log is cleared.

"Saving your changes to a task or profile" on page 190
You can save your profile and task settings at any time.

Configuring a Content Engine instance

You can use the Configuration Manager graphical user interface to configure a Content Engine instance.

To configure a Content Engine instance:

1. Create a configuration profile. See "Creating a profile for a new installation."
2. Edit the configuration tasks included in the profile. See one or more of the following topics:
   - "Editing the configure JDBC data source task" on page 184
   - "Editing the configure LDAP task" on page 185
   - "Configuring the login modules" on page 187
   - "Editing the configure bootstrap properties settings" on page 185
3. Apply the configuration settings by running the tasks. See "Running all tasks at the same time" on page 189.
4. Deploy the application by running the Deploy Application task. Because deployment can take a long time, it is a best practice to run the Deploy Application task after you have completed all other configuration tasks. See "Editing the deploy application task" on page 186.

Setting the password save preference

By default, the Configuration Manager password save preference is set to not save passwords to a file. If your site security requirements permit you to save passwords to a file, you can change the password save preference setting.

When you close the profile, the passwords are erased from memory. Each time that you start Configuration Manager or open a saved profile, you must specify any passwords required by the tasks and for the application server properties before you run the tasks; otherwise, the tasks won't run successfully. If your site security requirements permit you to save passwords to a file, you can change the password save preference setting.

To change the password save preference:

1. Click **Window** → **Preferences**.
2. Complete one of the following actions:

Option	Description
To save passwords to file	Select the **Save all passwords to file when saving a task or profile** check box.
To prevent writing passwords to file	Clear the **Save all passwords to file when saving a task or profile** check box.

3. Click **OK**.

Creating a profile for a new installation

You must create a new configuration profile for each Content Engine application that you deploy.

To create a new configuration profile:

1. Start the Create New Installation Profile wizard.
   - Click the **New Installation Profile** icon in the toolbar.
   - Select **File** → **New Installation Profile**.

2. If a profile is already open, the Action Required message box opens. Respond to the messages as follows:
   a. Click **Yes** to continue creating a new profile, or click **No** to cancel. If you selected **Yes** and your current profile has any unsaved changes, the Save Resource message box opens.
   b. Click **Yes** to save your changes, or click **No** to continue without saving your changes.

      The Create New Configuration Profile Wizard opens.
3. Complete the wizard screens. For details on the fields in the wizard screens, hover your mouse over the field name to view the property description.

The new profile is displayed as an icon in the left-hand panewith icons for the tasks for the tasks that you selected. The default profile contains the following tasks:
- Configure GCD JDBC Data Sources
- Configure Object Store JDBC Data Sources
- Configure Login Modules
- Configure LDAP
- Configure Bootstrap Properties
- Deploy Application (Disabled)

Opening and closing an existing profile or task

You can save a profile, and open it later to edit the saved settings or to run tasks.
1. Open a profile:
   - Click **Open an Existing Profile** in the toolbar.
   - Select **File** → **Open Profile**.
   a. If a profile is already open, the Action Required message box opens. Respond to the messages as follows:
      1) Click **Yes** to continue creating a new profile, or click **No** to cancel.
      2) If you selected **Yes** and your profile has any unsaved changes, the Save Resource message box opens. Click **Yes** to save your changes, click **No** to continue without saving your changes, or click **Cancel**.
   b. Either type in the fully qualified path to the `*myprofile*.cfgp` profile file, or click **Browse** to locate the file.
   c. Click **OK**.
2. Open a task:

   More than one task tab can be open at a time in the Task Editor pane.
   a. If the profile is collapsed in the Content Engine Task View pane, click **+** next to the profile name to expand it.
   b. Use one of the following methods to open the desired task:
      - Click the ***task name*** in the Content Engine Task View pane, and then click **Edit Selected Task** in the Profile toolbar.
      - Double-click the ***task name*** in the Content Engine Task View pane.
3. Switch between open tasks in the Task Editor pane by clicking the ***tab name*** in the Task Editor pane for the desired task.
4. Close a task:
   a. If the task is not the actively selected task, click the ***tab name*** in the Task Editor pane for the desired task.

b. Click **Close** in the tab for the task. You will be prompted to save any changes to the task.

5. Close the profile by selecting **File** → **Close Profile**.

   You will be prompted to save any changes when you close a profile. Passwords are removed from memory when you close a profile.

Editing the application server properties

You initially provide the application server properties when you create a new profile. You can open the application server properties for editing at any time, but you cannot change the application server type for an existing profile. The application server properties must be set before you run any tasks.

1. Start the Edit Application Server Properties wizard by using one of theses methods:
   - Click **Edit Application Server Properties** in the main toolbar.
   - Select **File** → **Edit Application Server properties**.
2. Provide values for the application server properties. For details on the fields, hover your mouse over the field name to view the property description.
3. Optional: WebSphere Application Server and Oracle WebLogic Server only. In the Set Properties for Application Server window, click **Test Connection** to test the connection between Configuration Manager and the application server by using the information that you have provided. The test is optional, and you can proceed in the wizard even if the test fails. If the test fails, make sure that the application server is running and that the application server property values that you entered match the values that are defined in your application server.
4. Click **Finish**.

Editing the properties for a specific task

You must provide the required property values for each task in your profile before you run the task.

"Editing the configure JDBC data source task"
The JDBC data source information is used by Content Engine to connect to Global Configuration Data and object store databases. Configuration Manager provides two tasks for configuring the JDBC data sources: Configure GCD JDBC Data Sources and Configure Object Store JDBC Data Sources.

"Editing the configure LDAP task" on page 185
The LDAP information is used to connect Content Engine to the directory service provider to authenticate users.

"Editing the configure bootstrap properties settings" on page 185
The bootstrap information is needed for creating the Global Configuration Data and for starting Content Engine.

"Editing the deploy application task" on page 186
You can edit the deployment property values without applying the settings. When you apply the settings, the Content Engine is deployed as an application on the application server. Because deploying an application can take time, we recommend that you do not deploy the application until after you have installed any dependent files, such as Process Engine client files, Content Search Engine, or customized applications for Content Engine.

Editing the configure JDBC data source task:

The JDBC data source information is used by Content Engine to connect to Global Configuration Data and object store databases. Configuration Manager provides two tasks for configuring the JDBC data sources: Configure GCD JDBC Data Sources and Configure Object Store JDBC Data Sources.

The procedure for editing the Configure GCD JDBC Data Sources task and the Configure Object Store JDBC Data Sources task is the same. To complete the Content Engine configuration, you must configure the GCD data sources and the data sources for each object store.

1. Open either the GCD data source task or the object store data source task for editing.
   - Double-click **Configure GCD JDBC Data Sources**.
   - Double-click **Configure Object Store JDBC Data Sources**.
2. Provide the property values for your database. Place your mouse on a field name to view the property description.
3. Optional: WebSphere Application Server and Oracle WebLogic Server only. Click **Test Database Connection** to test the connection to the database by using the database user name, database server name, database name, port number, and password that you provided. The test does not create the data sources.
4. Select **File** → **Save** to save your changes. Saving your changes to disk does not apply the settings to the application server.

Editing the configure LDAP task:

The LDAP information is used to connect Content Engine to the directory service provider to authenticate users.

1. Double-click **Configure LDAP** in the Content Engine Task View pane to open the task for editing.
2. Provide the property values for your LDAP provider. For details on the fields, hover your mouse over the field name to view the property description.
3. Optional: WebSphere Application Server and Oracle WebLogic Server only. Click **Test LDAP Connection** to test the connection to the directory service provider by using the directory service bind user name, host name, port number, and password that you provided.
4. Select **File** → **Save** to save your changes.

Editing the configure bootstrap properties settings:

The bootstrap information is needed for creating the Global Configuration Data and for starting Content Engine.

1. Double-click **Configure Bootstrap Properties** in the Content Engine Task View pane to open the task for editing.
2. Select a value for the **Bootstrap operation** field:

Option	Description
To provide bootstrap information for a new installation profile	Select **Create New**.
To modify an existing deployed EAR file	Select **Modify Existing**.
To upgrade an existing deployed EAR file	Select **Upgrade**.

3. Provide the bootstrap property values. For details on the fields, hover your mouse over the field name to view the property description.

4. Optional: If you selected **Modify Existing** or **Upgrade**, then click **Verify Bootstrap Information** to display the bootstrap information from the modified EAR file. You can verify the information in the modified EAR file for a new installation after you run the task.
5. Select **File** → **Save** to save your changes.

Editing the deploy application task:

You can edit the deployment property values without applying the settings. When you apply the settings, the Content Engine is deployed as an application on the application server. Because deploying an application can take time, we recommend that you do not deploy the application until after you have installed any dependent files, such as Process Engine client files, Content Search Engine, or customized applications for Content Engine.

To edit the Deploy Application task:

1. Right-click the **Deploy Application** task in the profile pane (left pane), and select **Edit Selected Task**.
2. Provide the property values for your deployment. For details on the fields, hover your mouse over the field name to view the property description..
3. Select **File** → **Save**.

Related tasks

"Configuring Content Engine" on page 18
You can configure and deploy all of your Content Engine instances with Configuration Manager. Configuration Manager prepares the Content Engine application for deployment on the application server. A single Content Engine application instance equates to one deployed application on your application server.

Applying the property settings by running a specific task

You must run a task to apply the values that you provided.

"Applying the JDBC data source settings"
Your JDBC data source settings are stored when you save the task, but the settings are not applied to the application server until you run the task.

"Configuring the login modules" on page 187
The login modules provide authentication information for the Content Engine application.

"Applying the LDAP settings" on page 187
Your LDAP settings are stored when you save the task, but the settings are not applied to the application server until you run the task.

"Applying the bootstrap properties settings" on page 187
The bootstrap information is needed for creating the Global Configuration Data and for starting Content Engine. Your bootstrap settings are stored when you save the task, but the settings are not applied to the application server until you run the task.

"Deploying the application" on page 188
Your Deploy Application task settings are stored when you save the task, but the Content Engine EAR file is not deployed to the application server until you run the task.

Applying the JDBC data source settings:

Your JDBC data source settings are stored when you save the task, but the settings are not applied to the application server until you run the task.

1. Select the configure data sources task that you want to run.
   - Right-click **Configure GCD JDBC Data Sources** in the Content Engine Task View pane, and select **Run Task**.
   - Right-click **Configure Object Store JDBC Data Sources** in the Content Engine Task View pane, and select **Run Task**.

   Running the configuration task can take a few minutes.
2. Close the Configure JDBC Data Sources task pane.

The task execution status messages are displayed in the Console pane below the JDBC data source properties.

Configuring the login modules:

The login modules provide authentication information for the Content Engine application.

You do not must provide any information to create the login modules. If needed, you can change the default values for the script file to run and for the temporary directory location.

To configure the login modules:

1. Make sure that the task is enabled. When the task is disabled, the task name includes the text **(Disabled)**. To enable the task, select **Configure GCD JDBC Data Sources (Disabled)** in the profile pane, and then either right-click and choose **Enable Selected Task** from the context menu, or click the **Enable the Selected Task** icon in the task toolbar.
2. Create the login modules by right-clicking **Configure Login Modules** in the profile pane, and selecting **Run Task**. Running the configuration task can take a few minutes. The task execution status messages are displayed in the console pane below the bootstrap properties.

   Tip: You can check the completion status of the task by right-clicking **Configure Login Modules** in the profile pane, and selecting **Check Task Status**.
3. Close the Configure Login Modules task pane.

Applying the LDAP settings:

Your LDAP settings are stored when you save the task, but the settings are not applied to the application server until you run the task.

1. Right-click **Configure LDAP** in the Content Engine Task View pane, and then select **Run Task**. Running the configuration task can take a few minutes.
2. Close the Configure LDAP task pane.

The task execution status messages are displayed in the Console pane below the LDAP properties.

Applying the bootstrap properties settings:

The bootstrap information is needed for creating the Global Configuration Data and for starting Content Engine. Your bootstrap settings are stored when you save the task, but the settings are not applied to the application server until you run the task.

1. Right-click **Configure Bootstrap Properties** in the Content Engine Task View pane, and then select **Run Task**. Running the configuration task can take a few minutes.
2. Optional: If you selected **Create New**, then click **Verify Bootstrap Information** to display the bootstrap information from the modified EAR file.
3. Close the Configure Bootstrap properties task pane.

The task execution status messages are displayed in the Console pane below the bootstrap properties.

Deploying the application:

Your Deploy Application task settings are stored when you save the task, but the Content Engine EAR file is not deployed to the application server until you run the task.

1. Right-click the **Deploy Application** task in the left pane, and then select **Run Task**. Running the deployment task will take a few minutes.
2. Close the Deploy Application properties task pane.

The task execution status messages are displayed in the Console pane below the Deploy Application task properties.

Adding an additional task to your profile

A profile can contain an unlimited number of tasks. You can configure more than one Configure Object Store JDBC Data Sources task, more than one Configure LDAP task, or more than one Configure Bootstrap Properties task. You can add a new task for a task type that you do not already have in the profile.

The default configuration profile contains the following tasks:

- Configure GCD JDBC Data Sources
- Configure Object Store JDBC Data Sources
- Configure LDAP
- Configure Bootstrap Properties
- Deploy Application

You can add a new task whenever the following conditions apply:

- You do not already have an existing task of that type in the profile. You can have only one Configure GCD JDBC Data Sources task or one Deploy Application task.
- You have more than one object store in your site.
- You have multiple LDAP realms in your site.
- You must modify or upgrade you bootstrap properties.

To add a new task to your profile:

1. If your configuration profile is not open in Configuration Manager, open the profile.
2. Right-click any ***task name*** in the profile pane, and select **Add New Task**.

3. In the pop-up menu, select the ***task name*** that you want to create. The new task is added to the profile. If a task of the same type exists, the new task name begins with "New_."
4. Optional: Rename the task to provide a more useful name.
   a. Right-click the new ***task name***, and select **Rename Task**.
   b. Enter a useful name for the task, such as `Configure Object Store 2 JDBC Data Sources` or `Configure Bootstrap Properties for Upgrade`.
   c. Click **OK**.

Deleting a task from a profile

You can delete any unneeded tasks from your profile.

The default configuration profile contains the following tasks:
- Configure GCD JDBC Data Sources
- Configure Object Store JDBC Data Sources
- Configure LDAP
- Configure Bootstrap Properties
- Deploy Application

When you delete a task, all the property values are removed. If you later need the task, you will have to add a new task and re-enter all your values.

To delete a task from your profile:
1. If your configuration profile is not open in Configuration Manager, open the profile.
2. Right-click the ***task name*** that you want to remove, and select **Delete Selected Task**.
3. In the confirmation message box, click **OK**.

Running all tasks at the same time

You can run all the tasks in a profile at the same time. Disabled tasks will not run.

To run all tasks in a profile:
1. If the profile is collapsed in the Content Engine Task View pane, click **+** next to the profile name to expand it.
2. Use one of the following methods to run the Run All Tasks command:
   - Click **Run All Tasks** in the Content Engine Task View pane toolbar.
   - Select **File** → **Run All**.

   Important: Tasks will not complete if you have not entered passwords correctly during the current Configuration Manager session. See “Handling passwords in Configuration Manager” on page 173.

The Console pane displays the task execution messages.

Running a single task

You can run each configuration task individually. Disabled tasks will not run.

To run a selected task:
1. If the profile is collapsed in the Content Engine Task View pane, click **+** next to the profile name to expand it.
2. Use one of the following methods to run the Run a Task command:

- Click the down arrow just to the right of the **Run All Tasks** icon in the Main toolbar, and then select the task that you want to run.
- Click the ***task name*** in the Content Engine Task View pane to select the task. Click **Run a Task** in the Profile toolbar.
- Right-click the ***task name*** in the Content Engine Task View pane, and select **Run Task** from the context menu.

Important: Tasks will not complete if you have not entered passwords correctly during the current Configuration Manager session. See "Handling passwords in Configuration Manager" on page 173.

The Console pane displays the task execution messages.

Checking the task status

Task execution messages are displayed in the console pane when you run a task, and you can view the status of a specific task at any time.

1. If the profile is collapsed in the Content Engine Task View pane, click **+** next to the profile name to expand it.
2. Use one of the following methods to run the Check Status command:
   - Click the ***task name*** in the Content Engine Task View pane, and then click **Check Status** in the Content Engine Task View pane toolbar.
   - Right-click the ***task name*** in the Content Engine Task View pane, and select **Check Task Status** from the context menu.

The console pane opens with the status listed for the selected task. The following table lists the status results and their descriptions.

Status Result	Description
COMPLETED	The task ran successfully.
INCOMPLETE	The task is incomplete.
NO STATUS AVAILABLE	The task has not been run.
FAILED	The task failed to complete. Additional information about the failure is displayed.

Viewing the session log

The session log contains information about the tasks that were run in the current session of Configuration Manager. As you run additional tasks for the same or a different profile, new messages are added to the log. When you exit Configuration Manager, the session log is cleared.

1. Run at least one task.
2. Use one of the following methods to run the View Log command:
   - Click **View Configuration Manager Log File** in the Main toolbar.
   - Select **Window** → **View Log**.

The current session log is displayed in the Console pane. Subsequently running a task will replace the displayed session log with the current task status. To redisplay the session log, repeat this procedure as needed.

Saving your changes to a task or profile

You can save your profile and task settings at any time.

Use one of these methods to save changes to the currently open task:

- Click **Save** in the toolbar.
- Select **File** → **Save**.

configmgr.ini parameters

When you install Configuration Manager, the path to the directory that contains the Java binary to be used to launch the graphical user interface is added to the *ce_install_path*/tools/configure/configmgr.ini file.

Windows example

```
 -vm
C:\Program Files\IBM\FileNet\ContentEngine\_cejvm\bin
```

Configuration Manager command-line reference

Configuration Manager can be run from a command line. This section covers the syntax for the command-line version of Configuration Manager.

"Running Configuration Manager commands"
From the command line, you can generate the configuration XML files, run a configuration task to apply the settings in the configuration XML file, and check the status of a task. Use the following syntax to enter the Configuration Manager commands.

Running Configuration Manager commands

From the command line, you can generate the configuration XML files, run a configuration task to apply the settings in the configuration XML file, and check the status of a task. Use the following syntax to enter the Configuration Manager commands.

Use one of these commands to run the Configuration Manager command line:

Operating System	File Name
Windows	*ce_install_path*\tools\configure\configmgr_cl.exe

"How to read the syntax diagrams" on page 192
Syntax diagrams describe how you must enter commands and what options are available.

"**checkstatus** command" on page 192
The **checkstatus** command checks the status of the specified configuration task. The command name is not case sensitive.

"**execute** command" on page 197
The **execute** command applies the settings from a configuration XML file for the specified configuration task. The command name is not case sensitive.

"**generateconfig** command" on page 201
The **generateconfig** command generates the configuration XML file for the specified configuration task. The command name is not case sensitive.

"**gui** command" on page 206
The **gui** command opens the Configuration Manager graphical user interface. The command is not case sensitive.

"**listtasks** command" on page 207
The **listtasks** command displays a list of the tasks and the task files in the configuration profile. The command name is not case sensitive.

"**movetask** command" on page 210
The **movetask** command moves a task to a different position in the list of tasks. The task position determines the order that the tasks are run when you run all the tasks at the same time. You use the **listtask** command to display the task order. The command names are not case sensitive.

"**removetask** command" on page 213
The **removetask** command removes the specified task from the configuration profile. When you remove the task, the configuration XML file is deleted from the profile directory. The command name is not case sensitive.

"**storepasswords** command" on page 216
The **storepasswords** command prompts for passwords that are blank in a profile and stores the encrypted passwords in the file. Storing encrypted passwords might not be FIPS 140-2 compliant. You can run the command for a single task or for all tasks in the profile. The command name is not case sensitive.

How to read the syntax diagrams

Syntax diagrams describe how you must enter commands and what options are available.

The syntax topics uses several conventions to indicate variable, parameters, required items, and optional items. Enter all commands on a single line, even if the command or syntax examples wrap to the next line.

```
command_name -option_1 variable_1 [-option_2 variable_2]
 [-option_3 variable_3 | -option_4]
```

Where:

command_name
The **command_name** is required.

-option_1
The **-option_1** parameter is a required parameter.

variable_1
The *variable_1* value is a required variable for the **-option_1** parameter.

[-option_2 ***variable_2*****]**
Square braces [] indicate optional items. The **-option_2** parameter with its value is optional.

-option_3 ***variable_3*** **|** **-option_4**
A vertical bar indicates a choice of parameters. Use the **-option_3** parameter with its value, or use the **-option_4** parameter. In this example, both items are optional, and you can use only one or the other.

checkstatus command

The **checkstatus** command checks the status of the specified configuration task. The command name is not case sensitive.

checkstatus command syntax

The following syntax includes line breaks to format the command for reading. Enter the command and options on a single line, without any line breaks.

```
configmgr_cl checkstatus [-task task_type | -taskfile task_file_name]
 -profile myprofile [-help]
```

checkstatus command parameters

-task *task_type*
The **-task** *task_type* parameter specifies which task to use for the status check. You can omit the **-task** *task_type* parameter if you want to check all of the tasks or if you specify the **-taskfile** *task_file_name* parameter. The *task_type* value is not case sensitive. The following table lists the valid task names, the associated configuration XML file, and a description of the Content Engine settings affected by the task.

Table 17. task_type values

Option	Configuration file	Description

omitted	`configurebootstrap.xml`
	`configurebootstrap.`*`n`*`.xml`
	`configurejdbcgcd.xml`
	`configurejdbcos.xml`
	`configurejdbcos.`*`n`*`.xml`
	`configureldap.xml`
	`configureldap.`*`n`*`.xml`
	`configureloginmodules.xml`
	`deployapplication.xml`
	Where *n* is an integer starting with 2
		If you omit the `-task` *`task_type`* parameter and the **-taskfile** *task_file_name* parameter, then the status for all the configuration files in the profile is displayed.

Table 17. task_type values (continued)

Option	Configuration file	Description
`configurebootstrap`	`configurebootstrap.xml` `configurebootstrap.`*n*`.xml`, where *n* is an integer starting with 2	Checks status for applying the settings for the Content Engine bootstrap on the application server. The bootstrap information is needed for creating the Global Configuration Data and for starting Content Engine When you generate a second bootstrap configuration file, it is named `configurebootstrap.2.xml`. The filename increments for each new file you generate. You cannot change the filename, but you can edit the value in the file for the name of the task. For example, you might must check the status for the initial bootstrap task for the new profile and to check the status for modifying the EAR file to apply a fix pack. If your profile contains more than one `configurebootstrap` task, then you must specify the **-taskfile** *task_file_name* parameter to identify the task to check.
`configurejdbcgcd`	`configurejdbcgcd.xml`	Checks the status for configuring the JDBC connections to the Global Configuration Data (GCD) database used by Content Engine.

Table 17. task_type values (continued)

Option	Configuration file	Description
configurejdbcos	configurejdbcos.xml configurejdbcos.*n*.xml, where *n* is an integer starting with 2	Checks the status for configuring JDBC connections to a single object store database used by Content Engine. You need to generate, edit, and apply the configurejdbcos task settings for each object store in your database. When you generate a second object store JDBC configuration file, it is named configurejdbcos.2.xml. The filename increments for each new file you generate. You cannot change the filename, but you can edit the value in the file for the name of the task. If your profile contains more than one configurejdbcos task, then you must specify the **-taskfile** *task_file_name* parameter to identify the task to check.
configureLDAP	configureldap.xml configureldap.*n*.xml, where *n* is an integer starting with 2	Checks status for configuring the connection to the directory server for authenticating Content Engine users. (WebSphere Application Server or Oracle WebLogic Server only.) If you generate a second LDAP configuration file, then it is named configureldap.2.xml. The filename increments for each new file you generate. You cannot change the filename, but you can edit the value in the file for the name of the task. If your profile contains more than one ConfigureLDAP task, then you must specify the **-taskfile** *task_file_name* parameter to identify the task to check.
deployapplication	deployapplication.xml	Checks status for deploying the Content Engine application on the application server.

-taskfile *task_file_name*

The **-taskfile** *task_file_name* parameter specifies the configuration XML file to use.

If only one task file exists for the *task_type*, then the **-taskfile** *task_file_name* parameter is optional.

If more than one task file for the *task_type* exists, then you must include the **-taskfile** *task_file_name* parameter. You can omit the **-task** *task_type* parameter when you specify the **-taskfile** *task_file_name* parameter.

-profile *myprofile*

The **-profile** *myprofile* parameter specifies the profile to use. The *myprofile* value can be one of the following items:

- The name of the profile, such as ce_was_tiv_db2. The profile must be located in the `ce_install_path/tools/configure/profiles` directory, where *ce_install_path* is the location where the Content Engine software is installed.
- The absolute path to the profile directory, such as `"C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2"` or `opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2`.
- The absolute path to the profile input file, such as `"C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg"` or `opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2/ce_was_tiv_db2.cfg`.

Remember: If the path includes a directory name with spaces, enclose the entire path in quotation marks. For example, enter `"C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg"`.

-help

The **-help** parameter is optional and displays a brief message on the command syntax instead of running the command.

checkstatus command examples

The following examples include line breaks to format the command for reading. Enter the command and options on a single line, without any line breaks.

Check the status of a profile with only one file for the `configurejdbcos` task.

The following command checks the status of the `configurejdbcos` task in the `ce_install_path/tools/configure/profiles/wstdb2jdbc` directory:

```
configmgr_cl checkstatus -task configurejbcos -profile wstdb2jdbc
```

Check the status of a profile with several files for the `configurejdbcos` task.

The following command checks the status of the `configurejdbcos.2.xml` task file in the `ce_install_path/tools/configure/profiles/wstdb2jdbc` directory:

```
configmgr_cl checkstatus -taskfile configurejdbcos.2.xml
-profile wstdb2jdbc
```

Check the status for creating the login modules.

The following command checks the status of the `configureloginmodules` task in the `ce_install_path/tools/configure/profiles/wstdb2jdbc` directory:

```
configmgr_cl checkstatus -task configureloginmodules
-profile wstdb2jdbc
```

Display the help for the checkstatus command.

The following command displays the help for the **checkstatus** command:

```
configmgr_cl checkstatus -help
```

execute command

The **execute** command applies the settings from a configuration XML file for the specified configuration task. The command name is not case sensitive.

execute command syntax

The following syntax includes line breaks to format the command for reading. Enter the command and options on a single line, without any line breaks.

```
configmgr_cl execute [-task task_type | -taskfile task_file_name]
 -profile myprofile [-silent] [-force] [-help]
```

execute command parameters

-task *task_type*

The **-task** *task_type* parameter is indicates which task to run. You can omit the **-task** *task_type* parameter if you want to run all of the tasks or if you specify the **-taskfile** *task_file_name* parameter. The *task_type* value is not case sensitive. The following table lists the valid task names, the associated configuration XML file, and a description of the Content Engine settings affected by the task.

Table 18. task_name values

Option	Configuration file to execute	Description

omitted	`configurebootstrap.xml`
	`configurebootstrap.`*n*`.xml`
	`configurejdbcgcd.xml`
	`configurejdbcos.xml`
	`configurejdbcos.`*n*`.xml`
	`configureldap.xml`
	`configureldap.`*n*`.xml`
	`configureloginmodules.xml`
	`deployapplication.xml`
	where *n* is an integer starting with 2
		If you omit the `-task` *`task_type`* parameter and the **-taskfile** *task_file_name* parameter, then all the configuration files in the path are run. Any configuration XML file that has the **enabled** attribute value in the **<configuration>** tag set to false is skipped.

Table 18. task_name values (continued)

Option	Configuration file to execute	Description
configurebootstrap	configurebootstrap.xml configurebootstrap.*n*.xml, where *n* is an integer starting with 2	Applies the settings for the Content Engine bootstrap on the application server. The bootstrap information is needed for creating the Global Configuration Data and for starting Content Engine When you generate a second bootstrap configuration file, it is named configurebootstrap.2.xml. The filename increments for each new file you generate. You cannot change the filename, but you can edit the value in the file for the name of the task. For example, you might must run the initial bootstrap task for the new profile and then later run another task for modifying the EAR file to apply a fix pack. If your profile contains more than one configurebootstrap task, then you must specify the **-taskfile** *task_file_name* parameter to identify the task to run.
configurejdbcgcd	configurejdbcgcd.xml	Applies the settings for configuring the JDBC connections to the Global Configuration Data (GCD) database used by Content Engine.

Table 18. task_name values (continued)

Option	Configuration file to execute	Description
configurejdbcos	configurejdbcos.xml configurejdbcos.*n*.xml, where *n* is an integer starting with 2	Applies the settings for configuring JDBC connections to a single object store database used by Content Engine. You need to generate, edit, and apply the configurejdbcos task settings for each object store in your database. When you generate a second object store JDBC configuration file, it is named configurejdbcos.2.xml. The filename increments for each new file you generate. You can edit the file name as needed. If your profile contains more than one configurejdbcos task, then you must specify the **-taskfile** *task_file_name* parameter to identify the task to run.
configureldap	configureldap.xml configureldap.*n*.xml, where *n* is an integer starting with 2	Configures the connection to the directory server for authenticating Content Engine users. WebSphere Application Server or Oracle WebLogic Server only.) If you generate a second LDAP configuration file, then it is named configureldap.2.xml. The filename increments for each new file you generate. You can rename the file as needed. If your profile contains more than one configureldap task, then you must specify the **-taskfile** *task_file_name* parameter to identify the task to run. Oracle WebLogic Server only. When you run configureldap option, the weblogic.security. providers.authentication. DefaultAuthenticator. ControlFlag value is set to SUFFICIENT for authenticating users.

Table 18. task_name values (continued)

Option	Configuration file to execute	Description
deployapplication	deployapplication.xml	Deploys the Content Engine application on the application server.
registerem	registerem.xml	Windows only. Registers or unregistersEnterprise Manager from the Windows Registry.

-taskfile *task_file_name*

The **-taskfile** *task_file_name* parameter specifies the configuration XML file to use.

If only one task file exists for the *task_type*, then the **-taskfile** *task_file_name* parameter is optional.

If more than one task file for the *task_type* exists, then you must include the **-taskfile** *task_file_name* parameter. You can omit the **-task** *task_type* parameter when you specify the **-taskfile** *task_file_name* parameter.

-profile *myprofile*

The **-profile** *myprofile* parameter specifies the profile to use. The *myprofile* value can be one of the following items:

- The name of the profile, such as ce_was_tiv_db2. The profile must be located in the `ce_install_path/tools/configure/profiles` directory, where *ce_install_path* is the location where the Content Engine software is installed.
- The absolute path to the profile directory, such as `"C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2"` or `opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2`.
- The absolute path to the profile input file, such as `"C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg"` or `opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2/ce_was_tiv_db2.cfg`.

Remember: If the path includes a directory name with spaces, enclose the entire path in quotation marks. For example, enter `"C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg"`.

-silent

The **-silent** parameter is optional. When **-silent** is specified, then no prompts or informational messages are displayed in the console, but the errors are written to the log. Failure messages and validation error messages are displayed as needed, such as messages about missing passwords or invalid port numbers. If you run the execute command to run all the tasks in a profile, and you specify the **-silent** parameter, you must also specify the **-force** parameter.

-force

The **-force** parameter is optional and only applies when the **-silent** parameter is used. When **-force** is specified, then the task is run without pausing for required responses to validation error messages, such as messages about missing passwords or invalid port numbers.

-help
The **-help** parameter is optional and displays a brief message on the command syntax instead of running the command.

execute command examples

The following examples include line breaks to format the command for reading. Enter the command and options on a single line, without any line breaks.

Run all the tasks in a profile.
The following command runs all the tasks in the wstdb2jdbc profile, which is located in the *ce_install_path*/tools/configure/profiles/wstdb2jdbc directory. If you include the **-silent** parameter in the command, you must also include the **-force** parameter.

```
configmgr_cl execute -profile wstdb2jdbc
```

Run the `configurejdbcos` task in a profile with one `configurejdbcos` task.
The following command runs the `configurejdbc` task in the *ce_install_path*/tools/configure/profiles/wstdb2jdbc directory:

```
configmgr_cl execute -task configurejdbcos -profile wstdb2jdbc
```

Run a single `configurejdbcos` task in a profile with multiple `configurejdbcos` tasks:
The following command runs the `configurejdbcos.2.xml` task file in the *ce_install_path*/tools/configure/profiles/wstdb2jdbc directory:

```
configmgr_cl execute -taskfile configurejdbc.2.xml -profile wstdb2jdbc
```

Display the help for the execute command.
The following command displays the help for the **execute** command:

```
configmgr_cl execute -help
```

generateconfig command

The **generateconfig** command generates the configuration XML file for the specified configuration task. The command name is not case sensitive.

generateconfig command syntax

The following syntax includes line breaks to format the command for reading. Enter the command and options on a single line, without any line breaks.

```
configmgr_cl generateconfig -appserver app_server_type
-repositorytype ldap_repository_type
 -db database_type -ldap ldap_type -bootstrap bootstrap_operation
 -deploy deploy_type -task task_type -taskname display_name
-profile myprofile [-silent] [-force] [-help]
```

generateconfig command parameters

-appserver *appserver_name*
The **-appserver** *appserver_type* specifies the type of application server and must be WebSphere, WebLogic, or JBoss.

-db *database_type*
The **-db** *database_type* parameter is required only when you are generating all the files at the same time or when you are generating a single file by using the `configurejdbcgcd` or `configurejdbcos` option. This parameter specifies the type of database to be used by Content Engine and must be `mssql`, `oracle`, `oracle_rac`, `db2`, or `db2zos`.

-ldap *ldap_type*
The **-ldap** *ldap_type* parameter is required only when you are generating all the

files at the same time or when you are generating a single file by using the `configureldap` option. This parameter specifies the type of directory service repository that Content Engine uses for authenticating users and must be `activedirectory`, `adam`, `edirectory`, `oid`, `sunjava`, or `tivoli`. The `adam` option applies to both Microsoft ADAM and AD LDS.

-bootstrap *bootstrap_operation*
The **-bootstrap** *bootstrap_operation* parameter is required only when you are generating all the files at the same time or when you are generating a single file by using the `configurebootstrap` option. This parameter specifies the bootstrap operation for the profile and must be `new`, `modify`, or `upgrade`.

-deploy *deploy_type*
The **-deploy** *deploy_type* parameter is required only when you are generating all the files at the same time or when you are generating a single file by using the `deployapplication` option. This parameter specifies the type of Content Engine deployment. The value must be `standard`, `cluster`, or `netdeploy` (network deployment).

Specify `standard` if you are deploying Content Engine to a stand-alone (that is, a server that is not managed or clustered) WebSphere Application Server, Oracle WebLogic Server, or JBoss Application Server.

Specify `cluster` if you are deploying Content Engine to a WebSphere Application Server, Oracle WebLogic Server, or JBoss Application Server cluster.

-task *task_type*
The **-task** *task_type* parameter indicates which task to generate. You can omit the **-task** *task_type* parameter if you want to generate all the tasks or if you specify the **-taskfile** *task_file_name* parameter. The *task_type* value is not case sensitive. The following table lists the valid task names, the associated configuration XML file, and a description of the Content Engine settings affected by the task.

Table 19. task_type values

Option	Configuration file to generate	Description

omitted	`applicationserver.xml`
	`configurebootstrap.xml`
	`configurejdbcgcd.xml`
	`configurejdbcos.xml`
	`configureldap.xml`
	`configureloginmodules.xml`
	`deployapplication.xml`
		If you omit the `-task` *`task_type`* parameter and the **-taskfile** *task_file_name* parameter, then all the default configuration files for a profile are created.

Table 19. task_type values (continued)

Option	Configuration file to generate	Description
configurebootstrap	applicationserver.xml configurebootstrap.xml configurebootstrap.*n*.xml, where *n* is an integer starting with 2	Generates the file for the application server properties and the file with the settings for the Content Engine bootstrap on the application server. The bootstrap information is needed for creating the Global Configuration Data and for starting Content Engine When you generate a second bootstrap configuration file, it is named configurebootstrap.2.xml. The filename increments for each new file you generate. You cannot change the filename, but you can edit the value in the file for the name of the task. For example, you might must generate the initial bootstrap task for the new profile and then generate a second bootstrap task for modifying the EAR file to apply a fix pack. If the profile already contains an applicationserver.xml file, the existing file is retained.
configurejdbcgcd	applicationserver.xml configurejdbcgcd.xml	Generates the file for the application server properties and the file with the settings for configuring the JDBC connections to the Global Configuration Data (CGD) database used by Content Engine. If the profile already contains an applicationserver.xml file, the existing file is retained.

Table 19. task_type values (continued)

Option	Configuration file to generate	Description
configurejdbcos	applicationserver.xml configurejdbcos.xml configurejdbcos.*n*.xml, where *n* is an integer starting with 2	Generates the file for the application server properties and the file with the settings for configuring JDBC connections to a single object store database used by Content Engine. You need to generate, edit, and apply the configurejdbcos task settings for each object store in your database. When you generate a second object store JDBC configuration file, it is named configurejdbcos.2.xml. The filename increments for each new file you generate. You cannot change the filename, but you can edit the value in the file for the name of the task. If the profile already contains an applicationserver.xml file, the existing file is retained.
configureldap	applicationserver.xml configureldap.xml configureldap.*n*.xml, where *n* is an integer starting with 2	Generates the file for the application server properties and the file for configuring the connection to the directory server for authenticating Content Engine users. (WebSphere Application Server or Oracle WebLogic Server only.) When you generate a second LDAP configuration file, it is named configureldap.2.xml. The filename increments for each new file you generate. You cannot change the filename, but you can edit the value in the file for the name of the task. If the profile already contains an applicationserver.xml file, the existing file is retained.

Table 19. task_type values (continued)

Option	Configuration file to generate	Description
deployapplication	applicationserver.xml deployapplication.xml	Generates the file for the application server properties and the file with settings for deploying the Content Engine application on the application server. If the profile already contains an applicationserver.xml file, the existing file is retained.
registerem	registerem.xml	Generates the file for registering or unregisteringEnterprise Manager from the Windows Registry.

-taskname *display_name*
The **-taskname** *display_name* parameter is optional and is valid only for generating the files. This parameter specifies the value for the displayName attribute in the configuration XML file. If the display name includes spaces, put the entire name inside quotation marks. The display name is used in the graphical user interface to identify the task.

-profile *myprofile*
The **-profile** *myprofile* parameter specifies the profile to use. The *myprofile* value can be one of the following items:

- The name of the profile, such as ce_was_tiv_db2. The profile must be located in the *ce_install_path*/tools/configure/profiles directory, where *ce_install_path* is the location where the Content Engine software is installed.
- The absolute path to the profile directory, such as "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2" or opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2.
- The absolute path to the profile input file, such as "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg" or opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2/ce_was_tiv_db2.cfg.

Remember: If the path includes a directory name with spaces, enclose the entire path in quotation marks. For example, enter "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg".

-silent
The **-silent** parameter is optional. When **-silent** is specified, then no prompts or informational messages are displayed in the console, but the errors are written to the log. Failure messages and validation error messages are displayed as needed, such as messages about missing passwords or invalid port numbers. If you run the execute command to run all the tasks in a profile, and you specify the **-silent** parameter, you must also specify the **-force** parameter.

-force

The **-force** parameter is optional and only applies when the **-silent** parameter is used. When **-force** is specified, then the task is run without pausing for required responses to validation error messages, such as messages about missing passwords or invalid port numbers.

-help

The **-help** parameter is optional and displays a brief message on the command syntax instead of running the command.

generateconfig command examples

The following examples include line breaks to format the command for reading. Enter the command and options on a single line, without any line breaks.

Generate all configuration files at the same time.

The following command generates all the configuration XML files for a new installation profile for a standard deployment on WebSphere with IBM Tivoli Directory Server that uses a stand-alone LDAP repository and DB2 in the *ce_install_path*/tools/configure/profiles/wstdb2 directory:

```
configmgr_cl generateconfig -appserver websphere -repositorytype standalone
 -db db2 -ldap tivoli -bootstrap new -deploy standard -profile wstdb2
```

Generate only the `configurejdbcos` task file for an object store.

The following command generates only the configurejdbcos.*n*.xml file for a new installation profile for deployment on WebSphere that uses a stand-alone LDAP repository in the *ce_install_path*/tools/configure/profiles/wstdb2 directory:

```
configmgr_cl generateconfig -appserver websphere -repositorytype standalone
 -task configurejdbcos -profile wstdb2jdbc
```

Generate only the `configurejdbcos` task file for an object store and provide a display name for the task.

The following command generates only the configurejdbcos.*n*.xml file for a new installation profile for deployment on WebSphere that uses a stand-alone LDAP repository in the *ce_install_path*/tools/configure/profiles/wstdb2 directory and uses a display name of Configure Object Store OS23 Data Sources:

```
configmgr_cl generateconfig -appserver websphere -repositorytype standalone
 -task configurejdbcos -taskname "Configure Object Store OS23 Data Sources"
 -profile wstdb2jdbc
```

Display the help for the generateconfig command.

The following command displays the help for the **generateconfig** command:

```
configmgr_cl generateconfig -help
```

gui command

The **gui** command opens the Configuration Manager graphical user interface. The command is not case sensitive.

gui command syntax

```
configmgr_cl gui
```

gui command Example

The following command starts the Configuration Manager graphical user interface:

```
configmgr_cl gui
```

listtasks command

The **listtasks** command displays a list of the tasks and the task files in the configuration profile. The command name is not case sensitive.

listtasks command syntax

```
configmgr_cl listtasks [-task task_type]  -profile myprofile
 [-help]
```

listtasks command parameters

-task *task_type*
: The **-task** *task_type* parameter is optional and indicates which task type to list. The *task_type* value is not case sensitive. The following table lists the valid task names, the associated configuration XML file, and a description of the Content Engine settings affected by the task.

Table 20. task_type values

Option	Configuration files	Description
omitted	configurebootstrap.xml configurebootstrap.*n*.xml configurejdbcgcd.xml configurejdbcos.xml configurejdbcos.*n*.xml configureldap.xml configureldap.*n*.xml configureloginmodules.xml deployapplication.xml Where *n* is an integer starting with 2	If you omit the -task *task_type* parameter, then all the configuration tasks and the associated task files for the profile are listed.
configurebootstrap	configurebootstrap.xml configurebootstrap.*n*.xml, where *n* is an integer starting with 2	Lists the task for configuring the settings for the Content Engine bootstrap on the application server. The bootstrap information is needed for creating the Global Configuration Data and for starting Content Engine When you generate a second bootstrap configuration file, it is named configurebootstrap.2.xml. The filename increments for each new file you generate.
configurejdbcgcd	configurejdbcgcd.xml	Lists the task for configuring the settings for the JDBC connections to the Global Configuration Data (CGD) database used by Content Engine.

Table 20. task_type values (continued)

Option	Configuration files	Description
configurejdbcos	configurejdbcos.xml configurejdbcos.*n*.xml, where *n* is an integer starting with 2	Lists the task for configuring the settings for the JDBC connections to a single object store database used by Content Engine. You must generate, edit, and apply the configurejdbcos task settings for each object store in your database. When you generate a second object store JDBC configuration file, it is named configurejdbcos.2.xml. The filename increments for each new file you generate.
configureldap	configureldap.xml configureldap.*n*.xml, where *n* is an integer starting with 2	Lists the tasks for configuring the connection to the directory server for authenticating Content Engine users. (WebSphere Application Server or Oracle WebLogic Server only) When you generate a second LDAP configuration file, it is named configureldap.2.xml. The filename increments for each new file you generate. When you generate a second LDAP configuration file, it is named configureldap.2.xml. The filename increments for each new file you generate. You cannot change the filename, but you can edit the value in the file for the name of the task.
configureloginmodules	configureloginmodules.xml	
deployapplication	deployapplication.xml	Lists the task for deploying the Content Engine application on the application server.

-profile *myprofile*

The **-profile** *myprofile* parameter specifies the profile to use. The *myprofile* value can be one of the following items:

- The name of the profile, such as ce_was_tiv_db2. The profile must be located in the *ce_install_path*/tools/configure/profiles directory, where *ce_install_path* is the location where the Content Engine software is installed.

- The absolute path to the profile directory, such as "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2" or opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2.
- The absolute path to the profile input file, such as "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg" or opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2/ce_was_tiv_db2.cfg.

Remember: If the path includes a directory name with spaces, enclose the entire path in quotation marks. For example, enter "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg".

-help
The **-help** parameter is optional and displays a brief message on the command syntax instead of running the command.

listtasks command examples

List all the configuration tasks in the profile.

The following command lists all the configuration tasks and the associated configuration XML files in the wstdb2 profile located in the *ce_install_path*/tools/configure/profiles/wstdb2 directory:

```
configmgr_cl listtasks -profile wstdb2
```

A message like the following example is displayed:

```
All tasks in profile wstdb2.  The tasks will be executed in the
positions indicated when executing all tasks:
Task 1:
        Name: Configure GCD JDBC Data Sources
        Type: configurejdbcgcd
        File: configurejdbcgcd.xml
Task 2:
        Name: Configure Object Store JDBC Data Sources
        Type: configurejdbcos
        File: configurejdbcos.xml
Task 3:
        Name: Configure Login Modules
        Type: configureloginmodules
        File: configureloginmodules.xml
Task 4:
        Name: Configure LDAP
        Type: configureldap
        File: configureldap.xml
Task 5:
        Name: Configure Bootstrap Properties
        Type: configurebootstrap
        File: configurebootstrap.xml
Task 6:
        Name: Deploy Application
        Type: deployapplication
        File: deployapplication.xml
```

List all the `configurejdbcos` tasks in the profile.

The following command lists all the configure JDBC settings for the object store tasks and the associated configuration XML files in the wstdb2 profile located in the *ce_install_path*/tools/configure/profiles/wstdb2 directory:

```
configmgr_cl listtasks -task configurejdbcos -profile wstdb2
```

A message like the following example is displayed:

```
Tasks in profile wstdb2 of the task type configurejdbcos:
Task name: Configure Object Store JDBC Data Sources
        File: configurejdbcos.xml
```

Display the help for the listtasks command.
The following command displays the help for the **listtasks** command:

```
configmgr_cl listtasks -help
```

movetask command

The **movetask** command moves a task to a different position in the list of tasks. The task position determines the order that the tasks are run when you run all the tasks at the same time. You use the **listtask** command to display the task order. The command names are not case sensitive.

movetask command syntax

The following syntax includes line breaks to format the command for reading. Enter the command and options on a single line, without any line breaks.

```
configmgr_cl movetask -task task_type | -taskfile task_file_name
-position new_position -profile myprofile [-silent][-force][-help]
```

movetask command parameters

-task *task_type*
The **-task** *task_type* parameter indicates which task to move. This parameter must be included if the **-taskfile** *task_file_name* parameter is omitted. The *task_type* value is not case sensitive. The following table lists the valid task names, the associated configuration XML file, and a description of the Content Engine settings affected by the task.

Table 21. task_type values

Option	Configuration files	Description
`configurebootstrap`	`configurebootstrap.xml` `configurebootstrap.`*n*`.xml`, where *n* is an integer starting with 2	Moves the task for configuring the settings for the Content Engine bootstrap on the application server. The bootstrap information is needed for creating the Global Configuration Data and for starting Content Engine When you generate a second bootstrap configuration file, it is named `configurebootstrap.2.xml`. The filename increments for each new file you generate.
`configurejdbcgcd`	`configurejdbcgcd.xml`	Moves the task for configuring the settings for the JDBC connections to the Global Configuration Data (CGD) database used by Content Engine.

Table 21. task_type values (continued)

Option	Configuration files	Description
`configurejdbcos`	`configurejdbcos.xml` `configurejdbcos.`*n*`.xml`, where *n* is an integer starting with 2	Moves the task for configuring the settings for the JDBC connections to a single object store database used by Content Engine. When you generate a second object store JDBC configuration file, it is named `configurejdbcos.2.xml`. The filename increments for each new file you generate.
`configureldap`	`configureldap.xml` `configureldap.`*n*`.xml`, where *n* is an integer starting with 2	Moves the task for configuring the connection to the directory server for authenticating Content Engine users. (WebSphere Application Server or Oracle WebLogic Server only) When you generate a second LDAP configuration file, it is named `configureldap.2.xml`. The filename increments for each new file you generate. When you generate a second LDAP configuration file, it is named `configureldap.2.xml`. The filename increments for each new file you generate.
`configureloginmodules`	`configureloginmodules.xml`	Moves the task for configuring the login modules for the Content Engine application.
`deployapplication`	`deployapplication.xml`	Moves the task for deploying the Content Engine application on the application server.

-taskfile *task_file_name*

The **-taskfile** *task_file_name* parameter specifies the configuration XML file to use.

If only one task file exists for the *task_type*, then the **-taskfile** *task_file_name* parameter is optional.

If more than one task file for the *task_type* exists, then you must include the **-taskfile** *task_file_name* parameter. You can omit the **-task** *task_type* parameter when you specify the **-taskfile** *task_file_name* parameter.

-position*new_position*

The **-position***new_position* parameter specifies the new position in the list for the item. You can run the **listtasks** to view the list of tasks in the profile and their position before you run the **movetask** command.

-profile *myprofile*

The **-profile** *myprofile* parameter specifies the profile to use. The *myprofile* value can be one of the following items:

- The name of the profile, such as ce_was_tiv_db2. The profile must be located in the *ce_install_path*/tools/configure/profiles directory, where *ce_install_path* is the location where the Content Engine software is installed.
- The absolute path to the profile directory, such as "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2" or opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2.
- The absolute path to the profile input file, such as "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg" or opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2/ce_was_tiv_db2.cfg.

Remember: If the path includes a directory name with spaces, enclose the entire path in quotation marks. For example, enter "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg".

-silent

The **-silent** parameter is optional. When **-silent** is specified, then no prompts or informational messages are displayed in the console, but the errors are written to the log. Failure messages and validation error messages are displayed as needed, such as messages about missing passwords or invalid port numbers. If you run the execute command to run all the tasks in a profile, and you specify the **-silent** parameter, you must also specify the **-force** parameter.

-force

The **-force** parameter is optional and only applies when the **-silent** parameter is used. When **-force** is specified, then the task is run without pausing for required responses to validation error messages, such as messages about missing passwords or invalid port numbers.

-help

The **-help** parameter is optional and displays a brief message on the command syntax instead of running the command.

movetask command examples

Move the task for the configurejdbcos.3.xml file in a profile with more than one configurejdbcos task.

The following command moves the task for the configurejdbcos.3.xml file for the wstdb2 profile located in the *ce_install_path*/tools/configure/profiles/wstdb2 directory to position 1:

```
configmgr_cl movetask -taskfile configurejdbcos.3.xml -position 1
-profile wstdb2
```

Move the configureloginmodules task.

The following command moves the configureloginmodules task from the default position of task 3 to task 5 in the wstdb2 profile located in the *ce_install_path*/tools/configure/profiles/wstdb2 directory:

```
configmgr_cl movetask -task configureoginmodules -position 5
-profile wstdb2
```

Display the help for the movetask command.

The following command displays the help for the **movetask** command:

```
configmgr_cl movetask -help
```

removetask command

The **removetask** command removes the specified task from the configuration profile. When you remove the task, the configuration XML file is deleted from the profile directory. The command name is not case sensitive.

removetask command syntax

The following syntax includes line breaks to format the command for reading. Enter the command and options on a single line, without any line breaks.

```
configmgr_cl removetask -task task_type | -taskfile task_file_name
 -profile myprofile [-silent][-force][-help]
```

removetask command parameters

-task *task_type*

The **-task** *task_type* parameter is optional and indicates which task to remove. You can omit the **-task** *task_type* parameter if you specify the **-taskfile** *task_file_name* parameter. The *task_type* value is not case sensitive. The following table lists the valid task names, the associated configuration XML file, and a description of the Content Engine settings affected by the task.

Table 22. task_type values

Option	Configuration file to remove	Description
`configurebootstrap`	`configurebootstrap.xml` `configurebootstrap.`*n*`.xml`, where *n* is an integer starting with 2	Settings for the Content Engine bootstrap on the application server. The bootstrap information is needed for creating the Global Configuration Data and for starting Content Engine When you generate a second bootstrap configuration file, it is named `configurebootstrap.2.xml`. The filename increments for each new file you generate.
`configurejdbcgcd`	`configurejdbcgcd.xml`	Settings for configuring the JDBC connections to the Global Configuration Data (CGD) database used by Content Engine.

Table 22. task_type values (continued)

Option	Configuration file to remove	Description
configurejdbcos	configurejdbcos.xml configurejdbcos.*n*.xml, where *n* is an integer starting with 2	Settings for configuring JDBC connections to a single object store database used by Content Engine. You need to generate, edit, and apply the configurejdbcos task settings for each object store in your database. If you generate a second object store JDBC configuration file, then it is named configurejdbcos.2.xml. The filename increments for each new file you generate.
configureldap	configureldap.xml configureldap.*n*.xml, where *n* is an integer starting with 2	Configures the connection to the directory server for authenticating Content Engine users. (WebSphere Application Server or Oracle WebLogic Server only) If you generate a second LDAP configuration file, then it is named configureldap.2.xml. The filename increments for each new file you generate. If your profile contains more than one configureldap task, then you must specify the **-taskfile** *task_file_name* parameter to identify the task to remove.
deployapplication	deployapplication.xml	Deploys the Content Engine application on the application server.

-taskfile *task_file_name*
The **-taskfile** *task_file_name* parameter specifies the configuration XML file to use.

If only one task file exists for the *task_type*, then the **-taskfile** *task_file_name* parameter is optional.

If more than one task file for the *task_type* exists, then you must include the **-taskfile** *task_file_name* parameter. You can omit the **-task** *task_type* parameter when you specify the **-taskfile** *task_file_name* parameter.

-profile *myprofile*
The **-profile** *myprofile* parameter specifies the profile to use. The *myprofile* value can be one of the following items:

- The name of the profile, such as ce_was_tiv_db2. The profile must be located in the *ce_install_path*/tools/configure/profiles directory, where *ce_install_path* is the location where the Content Engine software is installed.

- The absolute path to the profile directory, such as "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2" or opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2.
- The absolute path to the profile input file, such as "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg" or opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2/ce_was_tiv_db2.cfg.

Remember: If the path includes a directory name with spaces, enclose the entire path in quotation marks. For example, enter "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg".

-silent
The **-silent** parameter is optional. When **-silent** is specified, then no prompts or informational messages are displayed in the console, but the errors are written to the log. Failure messages and validation error messages are displayed as needed, such as messages about missing passwords or invalid port numbers. If you run the execute command to run all the tasks in a profile, and you specify the **-silent** parameter, you must also specify the **-force** parameter.

-force
The **-force** parameter is optional and only applies when the **-silent** parameter is used. When **-force** is specified, then the task is run without pausing for required responses to validation error messages, such as messages about missing passwords or invalid port numbers.

-help
The **-help** parameter is optional and displays a brief message on the command syntax instead of running the command.

removetask command examples

Remove the `configurejdbcos` task from a profile with only one `configurejdbcos` task.
The following command removes the configurejdbcos task and the configurejdbcos.xml file from the profile named wstdb2jdbc_one.

```
configmgr_cl removetask -task configurejdbcos -profile wstdb2jdbc_one
```

Remove the `configurejdbcos` task from a profile with several `configurejdbcos` tasks.
The following command removes the configurejdbcos task and the configurejdbcos.2.xml file from the profile named wstdb2jdbc_many.

```
configmgr_cl removetask -taskfile configurejdbcos.2.xml
 -profile wstdb2jdbc_many
```

Remove the `configurejdbcos` task from a profile with several `configurejdbcos` tasks by using an absolute path to the profile directory.
The following command removes the configurejdbcos task and the configurejdbcos.2.xml file from the profile named wstdb2jdbc_many that is located in the c:\temp\myprofiles\wstdb2jdbc_many directory.

```
configmgr_cl removetask -taskfile configurejdbcos.2.xml
-profile  c:\temp\myprofiles\wstdb2jdbc_many
```

Display the help for the removetask command.
The following command displays the help for the **removetask** command:

```
configmgr_cl removetask -help
```

storepasswords command

The **storepasswords** command prompts for passwords that are blank in a profile and stores the encrypted passwords in the file. Storing encrypted passwords might not be FIPS 140-2 compliant. You can run the command for a single task or for all tasks in the profile. The command name is not case sensitive.

storepasswords command syntax

The following syntax includes line breaks to format the command for reading. Enter the command and options on a single line, without any line breaks.

```
configmgr_cl storepasswords [-task task_type | -taskfile task_file_name]
 -profile myprofile [-help]
```

storepasswords command parameters

-task *task_type*
: The **-task** *task_type* parameter specifies a specific task to encrypt passwords for. You can omit the **-task** *task_type* parameter if you want to store passwords for all the tasks or if you specify the **-taskfile** *task_file_name* parameter. The *task_name* value is not case sensitive. The following table lists the valid task names, the associated configuration XML file, and a description of the Content Engine settings affected by the task.

Table 23. task_type values

Option	Configuration file	Description

omitted	`applicationserver.xml`
	`configurebootstrap.xml`
	`configurebootstrap.`*n*`.xml`
	`configurejdbcgcd.xml`
	`configurejdbcos.xml`
	`configurejdbcos.`*n*`.xml`
	`configureldap.xml`
	`configureldap.`*n*`.xml`
	`deployapplication.xml`
	Where *n* is an integer starting with 2
		If you omit the `-task` *`task_type`* parameter and the **-taskfile** *task_file_name* parameter, then you are prompted to enter the passwords for each configuration XML file in the profile. Each password is encrypted before it is added to the XML file.

`configurebootstrap`	`configurebootstrap.xml` `configurebootstrap.`*n*`.xml`, where *n* is an integer starting with 2	Encrypts the password for the `BootstrapPassword` property that is used to create the Global Configuration Data and to start Content Engine. If you have more than one `configurebootstrap.`*n*`.xml` file, run the command for each task file.

Table 23. task_type values (continued)

Option	Configuration file	Description
configurejdbcgcd	configurejdbcgcd.xml	Encrypts the password for the DatabasePassword property that Content Engine uses to access the GCD database.
configurejdbcos	configurejdbcos.xml configurejdbcos.*n*.xml, where *n* is an integer starting with 2	Encrypts the password for the DatabasePassword property that Content Engine uses to access the object store database. If you have more than one configurejdbcos.*n*.xml file, run the command for each task file.
configureldap	configureldap.xml configureldap.*n*.xml, where *n* is an integer starting with 2	Encrypts the password for the LDAPBindPassword property that Content Engine uses to connect to the directory server for authenticating Content Engine users. (WebSphere Application Server or Oracle WebLogic Server only.) If you have more than one configureldap.*n*.xml file, run the command for each task file.

-taskfile *task_file_name*
The **-taskfile** *task_file_name* parameter specifies the configuration XML file to use.

If only one task file exists for the *task_type*, then the **-taskfile** *task_file_name* parameter is optional.

If more than one task file for the *task_type* exists, then you must include the **-taskfile** *task_file_name* parameter. You can omit the **-task** *task_type* parameter when you specify the **-taskfile** *task_file_name* parameter.

-profile *myprofile*
The **-profile** *myprofile* parameter specifies the profile to use. The *myprofile* value can be one of the following items:

- The name of the profile, such as ce_was_tiv_db2. The profile must be located in the *ce_install_path*/tools/configure/profiles directory, where *ce_install_path* is the location where the Content Engine software is installed.
- The absolute path to the profile directory, such as "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2" or opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2.
- The absolute path to the profile input file, such as "C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\

`ce_was_tiv_db2\ce_was_tiv_db2.cfg"` or `opt/IBM/FileNet/ContentEngine/tools/configure/profiles/ce_was_tiv_db2/ce_was_tiv_db2.cfg`.

Remember: If the path includes a directory name with spaces, enclose the entire path in quotation marks. For example, enter `"C:\Program Files\IBM\FileNet\ContentEngine\tools\configure\profiles\ce_was_tiv_db2\ce_was_tiv_db2.cfg"`.

storepasswords command examples

Encrypt and save all passwords for a profile.

The following command encrypts and saves passwords for any blank entries in the profile named wstdb2jdbc_one.

```
configmgr_cl storepasswords -profile wstdb2jdbc_one
```

Encrypt and save the passwords for a specific `configurejdbcos` task in a profile with several `configurejdbcos` tasks.

The following command encrypts and saves passwords for any blank entries in the `configurejdbcos.2.xml` file from the profile named wstdb2jdbc_many.

```
configmgr_cl storepasswords -taskfile configurejdbcos.2.xml
-profile wstdb2jdbc_many
```

Display the help for the storepasswords command.

The following command displays the help for the **storepasswords** command:

```
configmgr_cl storepasswords -help
```

Appendix B. Troubleshooting installation and upgrade

This section provides troubleshooting solutions for problems you might encounter when installing or upgrading IBM FileNet P8 software.

"AddOn installation can fail with resource unavailable exception"
An AddOn installation might fail if a prepared statement in the prepared server cache of an application server references the specified database table.

"Application server does not start after installation and shutdown" on page 220
The WebSphere Application Server might not start after installation and shutdown because LDAP settings are not configured correctly or JVM startup arguments are not specified properly.

"Cannot save Process Task Manager security settings" on page 221
Saving the initial Process Task Manager security settings could fail because the software or database is not running, the connection with Content Engine failed, or user credential information is not correct.

AddOn installation can fail with resource unavailable exception

An AddOn installation might fail if a prepared statement in the prepared server cache of an application server references the specified database table.

Symptoms

The installation of an AddOn into an object store that uses a DB2 for z/OS® database fails. The installation returns an exception message that indicates the database table is currently referenced by a prepared statement and cannot be altered.

Causes

Installing an AddOn into an object store that uses DB2 for z/OS might fail when a prepared statement that is stored in the prepared statement cache of the application server references the affected database table. This reference maintains an active association to the referenced table and thus prevents any schema modifications from occurring.

For example, a -904 resource exception message with the reason code of `SQLERRMC=00E70081` indicates the table associated with the ALTER TABLE statement (DocVersion) is currently referenced by a prepared statement that is stored in the prepared statement cache and therefore, it cannot be altered.

```
2008-10-08T06:25:07.204Z 291E291E API FNRCE0230E - ERROR An error occurred
accessing the database. ErrorCode: -904, Message: 'DB2 SQL Error: SQLCODE=-904,
SQLSTATE=57011,SQLERRMC=00E70081;00000A00;A12BASE.DOCVERSION, DRIVER=3.51.118'
SQL: vargraphic(1200) "\ncom.filenet.api.exception.EngineRuntimeException:
DB_ERROR: An error occurred accessing the database.
ErrorCode: -904, Message: 'DB2 SQL Error: SQLCODE=-904, SQLSTATE=57011,
SQLERRMC=00E70081;00000A00;A12BASE.DOCVERSION, DRIVER=3.51.118'
SQL: "ALTER TABLE DocVersion ADD COLUMN uee8_rmentitydescription vargraphic(1200)"
```

Resolving the problem

Disable the prepared statement cache for the XA data source of the affected object store. Additionally, ensure the DB2 for z/OS **CACHEDYN** subsystem parameter is set to YES.

To disable the prepared statement cache for the XA data source of the object store:
1. Go to the prepared statement cache for the XA data source of the affected object store.
2. Make a note of this current statement size value to use when you reset it.
3. Disable the prepared statement cache for the XA data source of the affected object store by setting the statement size to 0.
4. Set the DB2 for z/OS **CACHEDYN** subsystem parameter to YES if needed.
5. Run the AddOn installation.
6. In the prepared statement cache for the XA data source of the affected object store, reset the statement size to its previous value.

Application server does not start after installation and shutdown

The WebSphere Application Server might not start after installation and shutdown because LDAP settings are not configured correctly or JVM startup arguments are not specified properly.

Symptoms

The WebSphere Application Server does not start after installation and shutdown.

Causes

This problem can occur because of several reasons:
- After you enable Global Security, the WebSphere Application Server might not be able to start because LDAP repository settings are not configured correctly. This condition is more likely to happen if you use Standalone as your default LDAP repository.
- You specified incorrect JVM startup arguments.

Resolving the problem

To resolve the LDAP problem, you must have valid LDAP users to enable Global Security.

Important: The WebSphere Application Server User ID (referred to as the WebSphere Administrative Login during Content Engine installation) must reside within the LDAP Base Distinguished Name that you specified during Content Engine installation.

To modify your LDAP settings:
1. Run `\IBM\WebSphere\AppServer\profiles\profile\bin\wsadmin -conntype NONE`.
2. At the wsadmin> prompt, enter `securityoff`.
3. Enter `exit`.
4. Restart the application server.
5. Start the WebSphere Console and make the necessary changes to the LDAP security settings.

6. In the WebSphere Console, re-enable Global Security.

To correct the JVM startup arguments, modify or remove the problematic argument values:

1. Open the `/IBM/WebSphere/AppServer/profiles/<profile>/config/cells/<cell_name>/nodes/<node_name>/servers/<server_name>/servers.xml` file.
2. Search for `"genericJvmArguments"`.
3. Modify or remove the incorrect argument values.
4. Save your changes.

Cannot save Process Task Manager security settings

Saving the initial Process Task Manager security settings could fail because the software or database is not running, the connection with Content Engine failed, or user credential information is not correct.

To save Process Task Manager security settings, the following conditions must be true:

- Process Engine software and the database must be running.
- Process Engine must be able to connect to the Content Engine by using the URI configured in Process Task Manager.
- All user names, groups, and passwords must match the names that are configured in the Content Engine LDAP configuration.

After all connections are made and security information is verified, the configuration is written to the Process Engine database. If the security settings cannot be saved, start by checking the following log files.

Operating system	Log file location
Windows	`\fnsw_loc\logs\TM_daemon\PEDirectoryServerConnectionDebug.txt`

After you review the log files, the following procedures provide information to assist with identifying the source of the problem.

"Verifying the Content Engine server is available to Process Engine on the network" on page 222
To save Process Engine security settings from Process Task Manager, the server where Content Engine is installed must be available to Process Engine on the network.

"Verifying that the Process Engine can connect to a FileNet Engine Web page on Content Engine" on page 222
Verify that Process Engine can connect to the FileNet Engine Web page on Content Engine. Failures could indicate an incorrect server name or problems with the designated port.

"Verifying that Process Engine can connect to Content Engine by using the Content Engine URI" on page 223
Verify that Process Engine can connect to the Content Engine by using the Content Engine URI. Failures could indicate problems connecting to the Content Engine or problems with security settings.

Verifying the Content Engine server is available to Process Engine on the network

To save Process Engine security settings from Process Task Manager, the server where Content Engine is installed must be available to Process Engine on the network.

To ping the server and verify that the Process Engine server can connect to the Content Engine server on the network:

1. Open a Web browser on the Process Engine server.
2. Ping the server by running the following command: `ping` *`ceserver`*

You should see responses that are similar to these:

```
Pinging ceserver [1.2.3.4]
Reply from 1.2.3.4: bytes =32 time < 1ms TTL=127
Reply from 1.2.3.4: bytes =32 time < 1ms TTL=127
Reply from 1.2.3.4: bytes =32 time < 1ms TTL=127
Reply from 1.2.3.4: bytes =32 time < 1ms TTL=127
```

The format varies, but the messages indicate there was a reply from the server and the IP address of this server is 1.2.3.4. If the ping returns a message indicating the host could not be found, verify that the server is running, the server name is correct, there is no DNS or firewall issue, and try again.

Verifying that the Process Engine can connect to a FileNet Engine Web page on Content Engine

Verify that Process Engine can connect to the FileNet Engine Web page on Content Engine. Failures could indicate an incorrect server name or problems with the designated port.

To verify that the Process Engine server can access the FileNet Engine Web page on the Content Engine and verify that the software version on the Content Engine matches the version of Content Engine Client software installed on the Process Engine:

1. Open a Web browser on the Process Engine server.
2. Browse to the FileNet Engine Web page and enter: `http://`*`ceserver`*`:`*`port`*`/FileNet/Engine`

   ceserver
      The host name of the machine where Content Engine is deployed.

   port
      The HTTP port that is used by the application server where Content Engine is deployed.

   The following table describes an example address for your application server.

Application server type	Web page address
Oracle WebLogic Server	http://myserver:7001/FileNet/Engine

3. Verify the value in the **Startup Message** key. The Content Engine build and version (for example, dap451.100), must match the build and version in the `version.txt` file in the TAR or ZIP file of the Content Engine Client installation software on Process Engine.

If you are able to retrieve the FileNet Engine information, the Content Engine server is available and configured correctly.

If you are able to retrieve the information but the Content Engine and Content Engine Client software versions are not the same, you must install the correct version of the Content Engine Client software.

If you are not able to retrieve the information, verify that the server can be reached by pinging the Content Engine server (*ceserver*).

If you can ping the server with the *ceserver* name, the problem could be with the port number that you are trying to use. Or the server that you can ping is not a Content Engine server, even though it responds on the network.

Verifying that Process Engine can connect to Content Engine by using the Content Engine URI

Verify that Process Engine can connect to the Content Engine by using the Content Engine URI. Failures could indicate problems connecting to the Content Engine or problems with security settings.

To verify that the Process Engine server can connect to the Content Engine by using the Content Engine URI and the security information specified in Process Task Manager:

1. Open a Web browser on the Process Engine server. Enter the Content Engine URI that is configured in Process Task Manager. In these examples, the protocol is HTTP and the attachment protocol is MTOM. The attachment protocol can also be specified as FNCEWS40DIME.

Application server type	Web page address
Oracle WebLogic Server	`http://`*`CEserver`*`:7001/wsi/FNCEWS40MTOM/`

2. If you can connect to the Content Engine by using the URI, try to save the security settings by clicking **Apply**. If an error is returned, you verified the ability to connect to Content Engine, so security information might not be correct, including the user name, password, or group names. Check the following log files for specific information related to problems with the security settings.

Operating system	Log file location
UNIX	`/fnsw/local/logs/TM_daemon/PEDirectoryServerConnectionDebug.txt`
Windows	`\fnsw_loc\logs\TM_daemon\PEDirectoryServerConnectionDebug.txt`

   The service user name must be a member of the group that is specified in the Process Engine Administrator Group (*pe_admin_group*). The user name must be entered as a short name. Duplicate short names are not supported.

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