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Installing and Using ColdFusion MX

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INTRODUCTION

Installing and Using ColdFusion MX is intended for anyone who needs to install and configure Macromedia ColdFusion MX 7.

About ColdFusion MX 7 documentation

The ColdFusion MX 7 documentation is designed to provide support for the complete spectrum of participants.

Documentation set

The ColdFusion MX 7 documentation set includes the following titles:

Book	Description
Installing and Using ColdFusion MX	Describes system installation and basic configuration for Windows, Solaris, and Linux. To see this manual, go to www.macromedia.com/go/livedocs_cfmx7docs_installing.
Configuring and Administering ColdFusion MX	Part I describes how to manage the ColdFusion environment, including connecting to your data sources and configuring security for your applications. Part II describes Verity search tools and utilities that you can use for configuring the Verity Search Server engine, as well as creating, managing, and troubleshooting Verity collections. To see this manual, go to www.macromedia.com/go/livedocs_cfmx7docs_configadmin.
ColdFusion MX Developer's Guide	Describes how to develop your dynamic web applications, including retrieving and updating your data, using structures, and forms. To see this manual, go to www.macromedia.com/go/livedocs_cfmx7docs_dev.
Getting Started Building ColdFusion MX Applications	Contains an overview of ColdFusion features and application development procedures. Includes a tutorial that guides you through the process of developing an example ColdFusion application. To see this manual, go to www.macromedia.com/go/livedocs_cfmx7docs_gs.
CFML Reference	Provides descriptions, syntax, usage, and code examples for all ColdFusion tags, functions, and variables. To see this manual, go to www.macromedia.com/go/livedocs_cfmx7docs__cfml_reference.
CFML Quick Reference	Provides a brief guide that shows the syntax of ColdFusion tags, functions, and variables.

Viewing online documentation

All ColdFusion MX 7 documentation is available online in HTML and Adobe Acrobat Portable Document Format (PDF) files. Go to the documentation home page for ColdFusion MX on the Macromedia website: www.macromedia.com. In addition, you can view the documentation in LiveDocs, which lets you add comments to pages and view the latest comments added by Macromedia, by going to www.macromedia.com/go/livedocs_cfmx7docs.

CHAPTER 1
Preparing to Install ColdFusion MX 7

This chapter describes Macromedia ColdFusion MX 7 product editions, system requirements, and other high-level considerations. Before installing ColdFusion MX 7, you should review the information in this chapter and determine the answers to the questions in the section "Gathering information necessary to install ColdFusion MX 7" on page 13.

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About the ColdFusion MX 7 installation

ColdFusion MX 7 provides a powerful and flexible installation and upgrade process. The ColdFusion MX 7 installation process includes the following phases:

1. Plan the installation. You determine your installation, configuration, and upgrade options.
2. Run the installer. You run the ColdFusion MX 7 installer.
3. (J2EE configuration only) Deploy ColdFusion MX 7. You deploy and configure ColdFusion MX 7 on your J2EE application server.

The ColdFusion MX 7 installation process supports the following scenarios:

New installation Install ColdFusion MX 7 on a computer with no previous ColdFusion installation.

Upgrade installation You can upgrade from ColdFusion 4.5, ColdFusion 5, ColdFusion MX, and ColdFusion MX 6.1. When upgrading from ColdFusion 4.5, or 5, the installer migrates previous settings to ColdFusion MX 7. When upgrading from ColdFusion MX or ColdFusion MX 6.1, the installer preserves the existing settings and installs in a new directory, automatically assigning ports that do not conflict with the existing installation.

You can install ColdFusion MX 7 in any of the following configurations:

Server configuration Lets you install one instance of ColdFusion MX 7 with an embedded J2EE server. This configuration most closely resembles the ColdFusion MX base release and other releases prior to ColdFusion MX, such as ColdFusion 5 and ColdFusion 4.5. This was formerly known as the stand-alone configuration. For information on installing the server configuration, see Chapter 2, "Installing the Server Configuration," on page 15.

Multiserver configuration (Enterprise Edition only) Installs JRun and automatically deploys ColdFusion MX 7 in a separate JRun server instance. This configuration supports server instance creation and ColdFusion deployment in the ColdFusion MX Administrator and lets you manage ColdFusion MX 7 deployments on multiple JRun servers. For information on installing the multiserver configuration, see Chapter 3, "Installing the Multiserver Configuration," on page 25.

J2EE configuration (Enterprise Edition only) Lets you deploy ColdFusion MX 7 as a Java application running on a Java 2 Enterprise Edition (J2EE) application server, either using the bundled license of JRun or using a third-party J2EE server, such as IBM WebSphere or BEA WebLogic. When you use the J2EE configuration, you can deploy ColdFusion MX 7 multiple times on a single computer. For information on installing the J2EE configuration, see Chapter 4, "Installing the J2EE Configuration," on page 31.

The remainder of this chapter describes product editions and system requirements. After you understand the editions and ensure that your environment meets the system requirements, continue with the instructions in Chapter 2, "Installing the Server Configuration," on page 15 Chapter 3, "Installing the Multiserver Configuration," on page 25, or Chapter 4, "Installing the J2EE Configuration," on page 31, as appropriate.

ColdFusion MX 7 product editions

The following table describes each edition of ColdFusion MX 7:

Edition	Description	Licensing
Developer	For Windows and Linux. Supports requests from the local host and two remote IP addresses. Includes every feature in the Enterprise Edition, with the following exceptions:. • Banded reports, output from the `cfdocument` tag, and charts are watermarked. • Verity update is supported on a single-server configuration only. • There is a 10K Verity document search limit. • EAR/WAR deployment is not supported. • If you install ColdFusion MX 7 in Trial mode, it reverts to Developer Edition after 30 days.	Free for a single computer used for development and evaluation purposes only. Applications on Development Edition server are viewable from up to five client machines. Not licensed for deployment.

Edition	Description	Licensing
Standard	For Windows and Linux. Features full ColdFusion Markup Language (CFML) support, including: • Custom tags and ColdFusion Components. • Full support for server-side ActionScript and Macromedia Flash Remoting. • Extensibility and integration with Simple Object Access Protocol (SOAP) and Extensible Markup Language (XML), and with Component Object Model (COM), Enterprise Java Beans (EJBs), and Common Object Request Broker Architecture (CORBA). • Rich forms. • A built-in charting and graphing engine, including enhancements in ColdFusion MX 7. • Database connectivity using ODBC with a desktop database, such as Microsoft Access, and using a Type 4 driver for SQL Server or MySQL. • Database and LDAP directory authentication, and resource security. • A 125K Verity document search limit. • ColdFusion MX 7 reporting	Licensed per server (up to eight processors per server).

Edition	Description	Licensing
Enterprise	For Windows, Linux, and Solaris. Includes every feature in the Standard Edition, and also provides the following: • Database connectivity using Type 4 drivers for Oracle, DB2, Sybase, and Informix • External Event Gateway support, including XMPP/ Jabber IM Gateway, Lotus Sametime IM Gateway, Asynchronous CFML Gateway, SMS/Mobile Cell Gateway, and local SMS development toolkit • The ability to import and execute Java Server Page (JSP) servlets and JSP Tag Library imports • Server sandbox security • A 250K Verity document search • Advanced server management capabilities, including server log analysis, configurable probes and alarms, and automated archive and deployment options • J2EE support, in particular, Servlet, Java Server Pages (JSP), and Enterprise JavaBeans (EJB) • Support for deployment on third-party J2EE application servers • Multiserver configuration and J2EE configuration support running multiple instances of ColdFusion MX 7 on a single computer • Backup mail servers and multithreaded e-mail delivery • HTTP-based load-balancing and failover using the Cluster Manager • Complete JRun 4 included • EAR/WAR package creation, and EAR/WAR deployment • Archive and deployment services	Licensed per CPU. Initial license is for two CPUs; licenses available in two-CPU increments.

Note: If you have a previous licensed version of ColdFusion installed, and you want to evaluate the Report Builder, you must install a trial or developer edition of ColdFusion MX 7.

System requirements

The ColdFusion MX 7 system requirements are available on the Macromedia web site. To view the system requirements, including a list of supported J2EE application servers, go to www.macromedia.com/go/sysreqscf.

To use third-party JDBC type 4 drivers, see "Connecting to an external JDBC Type 4 data source" on page 61. The installation instructions also describe how to provide ODBC database support on Windows.

Installation considerations

This section describes the following topics for installing or upgrading to ColdFusion MX 7:

- Installation considerations for all platforms
- Installation considerations for Windows
- Installation considerations for UNIX

Note: To use VisiBroker for CORBA connections in ColdFusion MX 7, see "Enabling CORBA support" on page 57.

Installation considerations for all platforms

The following are installation considerations for all platforms:

- Macromedia supports installing ColdFusion MX 7 side-by-side with ColdFusion MX 6.1 and ColdFusion MX. Macromedia supports upgrading to ColdFusion MX 7 from ColdFusion 5 and ColdFusion 4.5. If you are upgrading, you must back up your existing ColdFusion applications first.
- If you have previously installed a Beta version of ColdFusion MX 7, you must uninstall it before you install the release version.
- Macromedia recommends using the built-in (internal port-based) web server for development, but not in a production environment.
- If you have ColdFusion 4.5 or 5 installed on your computer, ColdFusion MX 7 installs in coexist mode automatically. You can migrate ColdFusion 4.5 or ColdFusion 5 resources (such as data sources and Verity collections) to ColdFusion MX 7.
- Previous versions of ColdFusion MX, including ColdFusion MX 6.1, can coexist with ColdFusion MX 7; however, you cannot install ColdFusion MX 7 in the directory where ColdFusion MX 6.1 resides.

  You can switch to use a different web server for ColdFusion MX 7 after the installation, by following the instructions for your platform and the web server in "Configuring web servers" on page 49.
- During installation of the server configuration, if you select the built-in web server, your web root directory is C:/CFusionMX7/wwwroot by default. This web server runs on the 8500 port. To display a page, append 8500 to the end of the host name or IP address; for example, http://localhost:8500/MyApp.cfm. (If the page still does not appear, ensure that the document is located in the ColdFusion MX 7 web root directory; for example, C:/CFusionMX7/wwwroot\MyApp.cfm. For more information, see "Using the built-in web server" on page 21.
- To interact with ColdFusion pages and components from a Macromedia Flash SWF file, use the Flash Remoting service in ColdFusion MX 7. To develop applications that use Flash Remoting, you must install the Flash Remoting components in the Flash MX authoring environment. The Flash MX authoring environment or Macromedia Flex is required to build applications that connect to and interact with the Flash Remoting service in ColdFusion MX 7.
- By default, Macromedia Flash Remoting cannot access web services through ColdFusion MX 7.

To enable Flash Remoting to access web services through ColdFusion MX 7:

1. Open the *cf_root*/WEB-INF/gateway-config.xml file in a text editor.
2. Locate the following line.

   ```
   <!--<adapter>coldfusion.flash.adapter.CFWSAdapter</adapter>-->
   ```

3. Remove the comments, so that the line appears as follows.

   ```
   <adapter>coldfusion.flash.adapter.CFWSAdapter</adapter>
   ```

4. Save the file.
5. Restart ColdFusion MX 7.

   For more information on Flash Remoting, see *ColdFusion MX Developer's Guide*.

- ColdFusion MX 7 is built in Java and when installing the server configuration, the ColdFusion MX 7 installer automatically installs the JRE that is appropriate for your platform. When installing the J2EE configuration, ColdFusion MX 7 uses the same JRE as your J2EE application server.
- In an optimal production environment, each ColdFusion MX 7 application is hosted on a dedicated server; database, mail, and other servers are not on the same computer.

Installation considerations for Windows

The following installation considerations are for Windows systems only:

- Do not configure the server running ColdFusion MX 7 as a Primary Domain Controller (PDC) or Backup Domain Controller (BDC). Macromedia follows the Microsoft network model, in which the first level is the PDC or BDC. These systems only manage the network or domain and are not designed to run application servers. ColdFusion MX 7 should reside on the second level of Microsoft Windows 2000 stand-alone systems. Stand-alone servers can participate in a network or domain.
- Windows 2000 Professional handles only ten TCP/IP connections concurrently. Therefore, Macromedia does not recommend using this operating system in a production environment; use Windows 2000 Server instead.

Installation considerations for UNIX

The following are installation considerations for UNIX systems only:

- For troubleshooting purposes, the installer creates the following log file during an installation or upgrade on UNIX: *cf_root*/Macromedia_ColdFusion_MX7_install.log. If you contact Macromedia Technical Support for installation support, you must send them this file.
- If you are deploying the J2EE configuration on a platform other than Linux or Solaris, use the coldfusion-70-other.jar installer. This Java-only installer does not include features that require platform-specific binary files, such as Verity and C++ CFX support.
- Macromedia does not recommend using Apple Mac OS X 10.3 in a production environment

Gathering information necessary to install ColdFusion MX 7

Although the ColdFusion MX 7 installer provides an intuitive interface, it helps to plan your answers to the questions asked by the installer. Use the following table to help plan for installing ColdFusion MX 7. You should first determine the type of installation, and then answer the questions that pertain to that type of installation.

Question	Answer	Installation types
Platform-specific installer name?	_____	All
What is the serial number for ColdFusion MX 7?	_____	All
What is the type of installation?	Server configuration Multiserver configuration J2EE configuration	All
EAR file or WAR files?	EAR | WAR	J2EE configuration
Install which subcomponents?	ColdFusion MX 7 ODBC Services ColdFusion MX 7 Search Services Getting Started Experience, Tutorials, & Documentation ***Note:*** Do not install the Getting Started Experience if you are installing in a production environment.	All
JRun installation directory?	_____	Multiserver configuration
Installation directory for EAR or WAR file?	_____	J2EE configuration
Context root for ColdFusion (EAR file only, default=cfmx)?	_____	J2EE configuration
Java Servlet API version?	2.3 or greater | 2.2 or lower	J2EE configuration
ColdFusion MX 7 installation directory?	_____	Server configuration
Configure web server or use built-in web server?	Configure web server for ColdFusion MX 7 | Enable ColdFusion MX built-in web server (coexist)	Server (existing ColdFusion web server configuration) Multiserver configuration
Choose web server to configure.	IIS | Apache | SunONE| Other	Server configuration Multiserver configuration
(Apache and SunONE) Configuration directory?	_____	Server configuration (new installation) Server configuration (existing ColdFusion 4.5/5) Multiserver configuration

Question	Answer	Installation types
(Apache) Path to server binary?	_____	Server configuration (new installation) Server configuration (existing ColdFusion 4.5/5) Multiserver configuration
ColdFusion MX Administrator password?	_____	All
Do you want to enable RDS?	Yes | No ***Note:*** RDS allows the server to interact with remotely connected developers. Macromedia recommends that you disable RDS for production servers. Disabling RDS also disables the directory browsing applets in the ColdFusion MX Administrator.	All
RDS password?	_____	All

CHAPTER 2
Installing the Server Configuration

This chapter describes how to install and uninstall ColdFusion MX 7 in the server configuration. The ColdFusion MX 7 server configuration contains an embedded copy of JRun and is most similar to previous ColdFusion versions.

Note: In this chapter, *cf_root* refers to your installation directory. By default, this directory is C:\CFusionMX7 in Windows, and /opt/coldfusionmx7 on UNIX.

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Installing ColdFusion MX 7 using the server configuration

This section provides installation instructions for the ColdFusion MX 7 server configuration on Windows, Linux, and UNIX.

Before you run the installer, you should determine the answers to the questions in the section "Gathering information necessary to install ColdFusion MX 7" on page 13.

Installing ColdFusion MX 7 server configuration on Windows

This section explains how to install ColdFusion MX 7 on Windows.

Note: The Windows installer requires a computer that supports at least 256 colors.

To install ColdFusion MX 7 in Windows:

1. Read the online version of the Release Notes for any late-breaking information or updates. For more information, see www.macromedia.com/go/proddoc_releasenotes.
2. Ensure that your operating system meets the system requirements described in "System requirements" on page 10.
3. Review "Installation considerations for Windows" on page 12 and "Installation considerations for all platforms" on page 11.
4. Determine the answers to the questions in the section "Gathering information necessary to install ColdFusion MX 7" on page 13.
5. Close any applications that are currently running on your computer.
6. If you plan to configure an external web server, ensure that the web server is running.
7. If you are installing on a computer on which ColdFusion 4.5 or 5 already exists, shut down all ColdFusion services. For information about stopping ColdFusion services, see "Managing ColdFusion MX 7 services in Windows" on page 47.
8. Insert the CD or download the setup file from the Macromedia website.
9. If the installation wizard does not start automatically when you insert the CD, locate the setup.exe file on the CD and double-click it. If you are installing from a network or a downloaded file, locate the ColdFusion MX 7 installation executable file (coldfusion-70-win.exe) and double-click it.

   The installation wizard starts.
10. Follow the instructions in the wizard, and let it run to completion.
11. Open the ColdFusion MX Administrator to configure the server.
12. After the server configuration is complete, click OK to run the Getting Started Experience.

    If you are new to ColdFusion, you can use the Getting Started Experience to learn about the basics of creating a ColdFusion application. If you are already familiar with ColdFusion, you can view code snippets that highlight the new features in ColdFusion MX 7.
13. To install the ColdFusion MX 7 Extensions for Dreamweaver, double-click the cfmx7dreamweaverextensions.mxp file, which is located in the *cf_root*/wwwroot/CFIDE/installers directory.

    Note: If you configured ColdFusion MX to run with an external web server, this file is in the *webroot*/CFIDE/installers directory.
14. To install ColdFusion MX 7 Report Builder, double-click the CFReportBuilderInstaller.exe file, which is in the *cf_root*/wwwroot/CFIDE/installers directory.
15. Configure and manage your system, as described in Chapter 5, "Configuring Your System," on page 45.
16. To learn about ColdFusion MX 7, read the documentation, which is accessible through the Documentation link at the top of the ColdFusion MX Administrator.

Migrating Windows settings manually

If you are upgrading from ColdFusion 4.5 or 5, you can optionally migrate settings later, manually.

To migrate settings manually:

1. Close the ColdFusion MX Administrator, if it is not already closed.
2. Open the *cf_root*\lib\adminconfig.xml (server configuration) file in a text editor.
3. Change the value for `runmigrationwizard` and `runmxmigrationwizard` to `true`, as necessary, so the appropriate lines of the file appear as follows:

   ```
   <runmigrationwizard>true</runmigrationwizard>
   ```

   or

   ```
   <runmxmigrationwizard>true</runmxmigrationwizard>
   ```

4. Change the value for `migratecf5` or `migratecf6` to `true`, as necessary, so the appropriate lines of the file appear as follows:

   ```
   <migratecf5>true</migratecf5>
   ```

   or

   ```
   <migratecf6>true</migratecf6>
   ```

5. Save the file.
6. Restart the ColdFusion MX Administrator from the Windows Start menu.

   You are prompted again to migrate your settings.

   Caution: If you migrate your ColdFusion 5 settings later, you might overwrite new ColdFusion MX 7 settings.

Installing the ColdFusion MX 7 server configuration on UNIX

This section explains how to install ColdFusion MX 7 on UNIX.

By default, ColdFusion MX 7 installs into the /opt/coldfusionmx7 directory. To install it into a different directory, you must create that directory before you run the installation.

Note: The default user is *nobody* for the UNIX installer running ColdFusion MX 7.

To install the ColdFusion MX 7 server configuration on UNIX:

1. Read the online version of the Release Notes for any late-breaking information or updates. For more information, see www.macromedia.com/go/proddoc_releasenotes.
2. Ensure that your operating system meets the system requirements as described on the Macromedia web site at www.macromedia.com/go/sysreqscf.
3. Review "Installation considerations for UNIX" on page 12 and "Installation considerations for UNIX" on page 12.
4. Determine the answers to the questions in the section "Gathering information necessary to install ColdFusion MX 7" on page 13.
5. If you plan to configure an external web server, ensure that the web server is running.

6. If you are installing on a computer on which ColdFusion 4.5 or 5 already exists, shut down the ColdFusion servers. For information about stopping ColdFusion services, see "Managing the ColdFusion MX 7 process on UNIX" on page 48.
7. Log in as root.
8. Copy the installation file that is appropriate for your platform and locale from the CD or Macromedia website, and save it to a directory on your local disk.

   The following are the installation files for supported server configuration platforms:

   - coldfusion-70-lin.bin
   - coldfusion-70-sol.bin
9. Using the `cd` command, go to the directory that contains the installation file.
10. Start the installation with the following command:

    `./<filename>`

    The installation program starts.

    Note: To run the UNIX installer in GUI mode, type **./<*filename*> -i gui**.
11. Follow the prompts, and let the installation program run to completion.

    Caution: For security reasons, it is crucial that you do not use *root* for the runtime user.
12. Start ColdFusion MX 7 with the following command:

    `/cf_root/bin/coldfusion start`

    If you specified the use of an external web server when you ran the installer, ColdFusion MX 7 automatically runs the *cf_root*/bin/cfmx-connectors.sh script when it starts the first time. This shell script runs the Web Server Configuration Tool using the settings you specified during the installation. If there are problems running this script, review the configuration and bin directory specifications, modify as necessary, and rerun the script. You can also configure your web server using the scripts in *cf_root*/bin/connectors, as appropriate.

    To stop ColdFusion MX 7, use the following command:

    `/cf_root/bin/coldfusion stop`

    For more information on managing processes, see "Managing the ColdFusion MX 7 process on UNIX" on page 48.
13. Open ColdFusion MX Administrator to run the configuration wizard.
14. Configure and manage your system, as described in Chapter 5, "Configuring Your System," on page 45.
15. To learn about ColdFusion MX 7, read the documentation, which is accessible through the Documentation link at the top of the ColdFusion MX Administrator.

Migrating UNIX settings manually

If you are upgrading from ColdFusion 4.5 or 5, you can optionally migrate settings later. To migrate later:

To migrate settings manually:

1. Close the ColdFusion MX Administrator, if it is not already closed.
2. Open the *cf_root*/lib/adminconfig.xml file in a text editor.
3. Change the value of `runmigrationwizard` and `runmxmigrationwizard` to `true`, as necessary, so that the appropriate lines of the file appear as follows:

```
<runmigrationwizard>true</runmigrationwizard>
<runmxmigrationwizard>true</runmxmigrationwizard>
```

4. Save the file.
5. Restart the ColdFusion MX Administrator.

   You are prompted again to migrate your settings.

   Caution: If you migrate your ColdFusion 5 settings later, you might overwrite new ColdFusion MX 7 settings.

Installing the ColdFusion Report Builder

ColdFusion MX 7 reporting consists of server-side runtime processing and the ColdFusion Report Builder. The server-side processing is available on any platform, however, the ColdFusion Report Builder runs on Windows only.

To install the ColdFusion Report Builder:

1. Access the ColdFusion Report Builder installer from one of the following locations:
   - **The ColdFusion MX 7 installation** Go to the *webroot*/CFIDE/installers directory.
   - **The ColdFusion MX 7 CD** Use the CD Browser to select the ColdFusion MX reporting option.
   - **The Macromedia web site** Go to www.macromedia.com/go/cfmx7_reporting/.
2. Double-click the CFReportBuilderInstaller.exe file.
3. Follow the instructions in the installation.

Installing the Verity search server separately

By default, the installer installs the Verity search server on the same computer as ColdFusion MX 7. To enable searches using Verity, if you want to install the Verity search server on a different computer from the one where you install ColdFusion MX 7, you must install the Verity search server separately. For more information, see "Installing the Verity search server separately" on page 39.

ColdFusion MX 7 server configuration directory structure

The following table describes the directories under the *cf_root* directory when you install the server configuration of ColdFusion MX 7:

Directory	Description
bin	Programs for starting, stopping, and viewing information for ColdFusion MX 7, and to run Crystal Reports (Windows only).
cache	Repository for temporary files from ColdFusion MX 7.
cfx	Sample C++ and Java CFX files with their supporting files. You can also store your CFX files in this directory (although you can put them in any location that is defined in your classpath).
charting	Files for the ColdFusion MX 7 graphing and charting engine.
CustomTags	Repository for your custom tags.
db	In Windows, the files for sample Microsoft Access databases and ODBC services. On UNIX, the files for the sample PointBase databases.
gateway	(Enterprise Edition only) Files for ColdFusion MX 7 event gateways.
jintegra	JIntegra programs, libraries, and other supporting files (for example, to integrate Java and COM code; manage access to ActiveX controls (OCXs) that are hosted in a graphical user interface (GUI) container; and register the JVM and type libraries).
lib	JAR, XML, property, and other files that are the foundation of ColdFusion MX 7, for functionality such as queries, charting, mail, security, Verity searches, and system probes.
logs	Repository for ColdFusion MX 7 log files. JRE-specific log files are in the runtime/logs directory.
Mail	Repository for spooled mail and mail that cannot be delivered.
META-INF	XML metadata for the ColdFusion MX Administrator.
registry	(UNIX only) Flat file to store registry settings
runtime	Programs and supporting files for the ColdFusion MX 7 runtime. In Windows, the files for the bundled JRE are in runtime\jre.
runtime/jre	Files for the Java Runtime Environment (JRE) that is bundled with ColdFusion MX 7.
temp_zip	The zipped version of the sample applications.
uninstall	Files to uninstall ColdFusion MX 7.
verity	Verity collections. (The Verity program files are in the lib directory.)
wwwroot	Default web root directory for the built-in web server. When running on other web servers, this directory contains only the WEB-INF directory; do not remove this directory.

Using the built-in web server

ColdFusion MX 7 has its own web server that you can use to develop ColdFusion MX 7 applications, without depending on an external web server, such as Internet Information Server (IIS), Apache, or SunONE. Macromedia does not recommend using the built-in web server in a production environment. However, it is more than suitable for development, allowing you to create virtual directories and set the default document (for example, default.cfm or index.cfm).

During the ColdFusion MX 7 installation, you must choose a web server. If you select the built-in web server, your web root directory is located in the *cf_root*/wwwroot directory. By default, the web server runs on port 8500. This means that to display a page in your application, you must append :8500 to the host name or IP address in the URL; for example, http://localhost:8500/YourApp1/index.cfm. (If the page still does not appear, make sure that the document is located in the built-in web server's web root directory; for example, C:\CFusionMX7\wwwroot\YourApp1\index.cfm.)

Note: If you install the Server configuration of ColdFusion MX 7 with the built-in server and port 8500 is in use, for example by ColdFusion MX or ColdFusion MX 6.1, the installer starts with port 8501 and looks at up to 100 ports to find one that is not being used by an application that is running. ColdFusion MX 7 uses that port and displays a message to indicate which port it selected.

If you select an external web server, the built-in web server is deactivated.

Switching the port for the built-in web server

You can change the port on which the built-in web server runs.

To change the port for the built-in web server:

1. Back up the jrun.xml file.

   This file is in the *cf_root*\runtime\servers\default\SERVER-INF directory in Windows, and in the *cf_root*/runtime/servers/default/SERVER-INF directory on UNIX.

2. Open the original jrun.xml file for editing.
3. Change the port number specified in the WebService port attribute (near the bottom of the file):

```
<service class="jrun.servlet.http.WebService" name="WebService">
  <attribute name="port">8500</attribute>
  <attribute name="interface">*</attribute>
  <attribute name="deactivated">false</attribute>
  ...
</service>
```

   Note: Make sure that the deactivated attribute is set to false.

4. Save the file.
5. Restart ColdFusion MX 7.

Switching from another web server

You can switch from an external web server to the built-in ColdFusion MX 7 web server without reinstalling, even if you did not select it during installation.

To switch from an external web server to the built-in web server:

1. Back up the jrun.xml file.

   This file is in the *cf_root*\runtime\servers\default\SERVER-INF directory in Windows, and in the *cf_root*/runtime/servers/default/SERVER-INF directory on UNIX.

2. Open the original jrun.xml file for editing.

3. Locate the WebService service and set the deactivated attribute to false:

```
<service class="jrun.servlet.http.WebService" name="WebService">
  <attribute name="port">8500</attribute>
  <attribute name="interface">*</attribute>
  <attribute name="deactivated">false</attribute>
  ...
</service>
```

4. Locate the ProxyService service and set the deactivated attribute to true:

```
<service class="jrun.servlet.jrpp.JRunProxyService" name="ProxyService">
  <attribute name="activeHandlerThreads">8</attribute>
  <attribute name="minHandlerThreads">1</attribute>
  <attribute name="maxHandlerThreads">1000</attribute>
  <attribute name="mapCheck">0</attribute>
  <attribute name="threadWaitTimeout">20</attribute>
  <attribute name="backlog">500</attribute>
  <attribute name="deactivated">true</attribute>
...
```

5. Save the file.

6. Copy the CFM pages in your web root directory (including the CFIDE and cfdocs directories) to the ColdFusion MX 7 *cf_root*/wwwroot directory, and use appropriate URL references (for example, http://localhost:8500/YourApp1/index.cfm). If you switch from the built-in web server to an external web server, you must copy the contents of the *cf_root*/wwwroot directory to your web server root. If you are using Macromedia Dreamweaver, be sure to reconfigure any sites that you move from one server to another.

7. Restart ColdFusion MX 7.

To switch to another web server, follow the instructions for the appropriate web server on your platform in "Configuring web servers" on page 49.

Note: The installation wizard does not allow you to configure both an external web server and the built-in web server and in most cases, you do not enable both the built-in web server and an external web server. If you do, you must create web server directory mappings so that both web servers use the same web root.

Uninstalling ColdFusion MX 7

The steps for uninstalling ColdFusion MX 7 depend on your operating system. This section contains instructions for Windows and UNIX systems.

Uninstalling ColdFusion MX 7 from Windows systems

Uninstalling ColdFusion MX 7 deletes all program files and related components from your computer.

To uninstall ColdFusion MX 7 from Windows:

1. Select Start > Settings > Control Panel > Add/Remove Programs > Macromedia ColdFusion MX7.
2. Click Change/Remove.
3. When the program completes, remove any remaining files and directories in the *cf_root* directory.
4. In some cases, the uninstall program may require you to restart the computer.

ColdFusion MX 7 is deleted from your server.

Uninstalling ColdFusion MX 7 from UNIX systems

Uninstalling ColdFusion MX 7 deletes all program files and related components from your computer.

To uninstall ColdFusion MX 7 from UNIX:

1. Log in as root.
2. Enter the following command to go to the *cf_root*/uninstall directory:

   ```
   cd cf_root/uninstall
   ```

3. Enter the following command:

   ```
   ./uninstall.sh
   ```

4. When the program completes, remove any remaining files and directories in the *cf_root* directory.

ColdFusion MX 7 is deleted from your server.

CHAPTER 3
Installing the Multiserver Configuration

This chapter describes how to install Macromedia ColdFusion MX 7 in the multiserver configuration.

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About multiserver configuration

When you install ColdFusion MX 7 using the multiserver configuration, the installation wizard automatically deploys and configures ColdFusion MX 7 on its own JRun server. This configuration supports server instance creation in the ColdFusion MX Administrator and lets you manage ColdFusion MX 7 deployments on multiple JRun servers.

If you already have JRun 4 installed and you want to use the server instance creation feature of ColdFusion MX 7, you must uninstall it *before* you install the multiserver configuration of ColdFusion MX 7.

When you use the multiserver configuration, you can use the ColdFusion MX Administrator to define multiple server instances on a single computer, each running ColdFusion MX 7. Running multiple instances of ColdFusion MX 7 has the following advantages:

Application isolation You deploy an independent application to each server instance. Each server instance has separate settings, and because each server instance runs in its own instance of the JVM, problems encountered by one application have no effect on other applications.

Load balancing and failover You deploy the same application to each server instance and add the instances to a cluster. The web server connector optimizes performance and stability by automatically balancing load and by switching requests to another server instance when a server instance stops running.

For more information on configuring ColdFusion MX 7 on multiple server instances, including detailed information for configuring multiple server instances when running on JRun 4, see *Configuring and Administering ColdFusion MX*.

For more information about J2EE servers, see "J2EE application servers" on page 31.

Installing ColdFusion MX 7 using the multiserver configuration

This section provides installation instructions for the ColdFusion MX 7 multiserver configuration. You must install ColdFusion MX 7 using the multiserver configuration on a computer that has no previous versions of JRun.

During the multiserver installation procedure, the installation wizard performs the following actions:

- Installs JRun 4.
- Creates a JRun server named cfusion (in addition to the admin and samples JRun servers).
- (Windows) Creates and starts Windows services for the admin and cfusion JRun servers.
- Configures the *jrun_root*/bin/jvm.config file, as appropriate for the platform.
- (Optional) Configures the JRun cfusion server for use with an external web server. In Windows, the installation wizard runs the Web Server Configuration Tool. On UNIX, the installation wizard creates a shell script that you can run to execute the Web Server Configuration Tool with the settings specified in the installation wizard.

  Note: The default JRun web server port for the cfusion server is 8300. However, if you install the multiserver configuration of ColdFusion MX 7 with the built-in server and port 8300 is in use, the installer starts with port 8301 and looks at up to 100 ports to find one that is not being used by an application that is running. ColdFusion MX 7 uses that port and displays a message to indicate which port it selected.

Installing the multiserver configuration in Windows

This section explains how to install the multiserver configuration of ColdFusion MX 7 in a Windows platform.

Note: The Windows installer requires a computer that supports at least 256 colors.

To install the multiserver configuration in Windows:

1. Read the online version of the Release Notes for any late-breaking information or updates. For more information, see www.macromedia.com/go/proddoc_releasenotes.
2. Ensure that your operating system meets the system requirements described in "System requirements" on page 10.
3. Review the "Installation considerations for Windows" on page 12 and "Installation considerations for all platforms" on page 11.
4. Determine the answers to the questions in the section "Gathering information necessary to install ColdFusion MX 7" on page 13.
5. Close any applications that are currently running on your computer.
6. If you plan to configure an external web server, make sure that the web server is running.

7. Insert the CD or download the setup file from the Macromedia website.
8. If the installation wizard does not start automatically when you insert the CD, locate the setup.exe file on the CD and double-click it. If you are installing from a network or a downloaded file, locate the ColdFusion MX 7 installation executable file (coldfusion-70-win.exe) and double-click it.

   The installation wizard starts.
9. Follow the instructions in the installation wizard and let it run to completion. (Ensure that you select Multiserver configuration.)

   Note: The installation wizard disables the multiserver configuration option if JRun 4 is already installed on the computer.
10. Open the ColdFusion MX Administrator to configure the server.
11. After the server configuration is complete, click OK to run the Getting Started Experience.

    If you are new to ColdFusion, you can use the Getting Started Experience to learn about the basics of creating a ColdFusion application. If you are already familiar with ColdFusion, you can view code snippets that highlight the new features in ColdFusion MX 7.
12. Configure and manage your system, as described in Chapter 5, "Configuring Your System," on page 45.
13. To install the ColdFusion MX 7 Extensions for Dreamweaver, double-click the cfmx7dreamweaverextensions.mxp file, which is located in the *cf_webapp_root*/wwwroot/CFIDE/installers directory.
14. To install ColdFusion MX 7 Report Builder, double-click the CFReportBuilderInstaller.exe file, which is in the *cf_webapp_root*/CFIDE/installers directory. For more information, see "Installing the ColdFusion Report Builder" on page 29.
15. Code and test ColdFusion MX 7 CFM pages.

    If you configured an external web server, store CFM pages under your web root directory. If you are using the built-in web server, store CFM pages under the web application root (*jrun_root*/servers/cfusion/cfusion-ear/cfusion-war) and access these pages using a URL of the form http://*hostname*:8300/*context-root*/*filename*.cfm, as follows:

    - *hostname* The machine name, IP address, or localhost.
    - *contextroot* The context root for the ColdFusion MX 7 web application. For more information, see "Context root" on page 33.
    - *filename* The directory path and file to display. The path is relative to the cfusion-war directory.

    For example, to display a CFM file located at C:/JRun4/servers/cfusion/cfusion-ear/cfusion-war/eisapp/index.cfm using the built-in JRun web server and a context root of cfmx, you specify the URL as http://localhost:8300/cfmx/eisapp/index.cfm.

Installing the multiserver configuration on UNIX

This section explains how to install the ColdFusion MX 7 multiserver configuration on UNIX.

To install the multiserver configuration on UNIX:

1. Read the online version of the Release Notes for any late-breaking information or updates. For more information, see www.macromedia.com/go/proddoc_releasenotes.
2. Ensure that your operating system meets the system requirements described on the Macromedia web site at www.macromedia.com/go/sysreqscf.
3. Review the "Installation considerations for UNIX" on page 12 and "Installation considerations for all platforms" on page 11.
4. Determine the answers to the questions in the section "Gathering information necessary to install ColdFusion MX 7" on page 13.
5. Log in as root.
6. Copy the installation file that is appropriate for your platform and locale from the CD or Macromedia website, and save it to a directory on your local disk.

   The following are the installation files for supported server configuration platforms:

   - coldfusion-70-lin.bin
   - coldfusion-70-sol.bin
7. Using the `cd` command, go to the directory that contains the installation file.
8. Start the installation with the following command:

   `./<filename> -i console`

   The installation program starts.

   Note: To run the UNIX installer in GUI mode, type `./<filename> -i gui`.
9. Follow the instructions in the installation wizard. Ensure that you select Multiserver configuration.

   Note: For security reasons, it is crucial that you do not use *root* for the runtime user.
10. When the installation completes successfully, start the JRun cfusion server:

    `jrun_root/bin/jrun -start cfusion`
11. If you specified external web server settings when you ran the installation wizard, run the *jrun_root*/bin/cfmx-connectors.sh shell script. The script runs the Web Server Configuration Tool, which configures the web server for use with ColdFusion MX 7. The web server should also be running.

    If there are problems running this script, review the configuration and bin directory specifications, modify as necessary, and rerun the script. You can also configure your web server using the scripts in *jrun_root*/bin/connectors, or through java -jar *jrun_root*/lib/wsconfig.jar, as appropriate.

    Note: This step is important, because if you specified the use of an external web server when you ran the installation wizard, the CFIDE and cfdocs directories are placed under that web server's root directory, and you must successfully configure the web server before you open the ColdFusion MX Administrator.

12. Open ColdFusion MX Administrator to run the configuration wizard.
13. Configure and manage your system, as described in Chapter 5, "Configuring Your System," on page 45.
14. Code and test ColdFusion MX 7 CFM pages.

    If you configured an external web server, store CFM pages under your web root directory. If you are using the built-in web server, store CFM pages under the web application root (*jrun_root*/servers/cfusion/cfusion-ear/cfusion-war) and access these pages using a URL of the form http://*hostname*:8300/*context-root*/*filename*.cfm, as follows:

    - *hostname* The machine name, IP address, or localhost.
    - *contextroot* The context root for the ColdFusion MX 7 web application. For more information, see "Context root" on page 33.
    - *filename* The directory path and file to display. The path is relative to the cfusion-war directory.

    For example, to display a CFM file located at /opt/jrun4/servers/cfusion/cfusion-ear/cfusion-war/eisapp/index.cfm using the built-in JRun web server and a context root of cfmx, you specify the URL as http://localhost:8300/cfmx/eisapp/index.cfm.

Configuration

In addition to enabling sandbox security in the ColdFusion MX Administrator, the application server must be running a security manager (`java.lang.SecurityManager`) and you must define the following JVM arguments:

```
-Djava.security.manager
  -Djava.security.policy="cf_webapp_root/WEB-INF/cfusion/lib/coldfusion.policy"
  -Djava.security.auth.policy="cf_webapp_root/WEB-INF/cfusion/lib/
  neo_jaas.policy"
```

You configure these settings by using a text editor to modify the *jrun_root*/bin/jvm.config file. or through the Settings panel of the JRun Management Console (JMC).

Installing the ColdFusion Report Builder

ColdFusion MX 7 reporting consists of server-side runtime processing and the ColdFusion Report Builder. The server-side processing is available on any platform, however, the ColdFusion Report Builder runs on Windows only.

To install the ColdFusion Report Builder:

1. Access the ColdFusion Report Builder installer from one of the following locations:
    - **The ColdFusion MX 7 installation** Go to the *webroot*/CFIDE/installers directory.
    - **The ColdFusion MX 7 CD** Use the CD Browser to select the ColdFusion MX reporting option.
    - **The Macromedia web site** Go to www.macromedia.com/go/cfmx7_reporting/.
2. Double-click the CFReportBuilderInstaller.exe file.
3. Follow the instructions in the installation.

Installing the Verity search server separately

By default, the installer installs the Verity search server on the same computer as ColdFusion MX 7. To enable searches using Verity, if you want to install the Verity search server on a different computer from the one where you install ColdFusion MX 7, you must install the Verity search server separately. For more information, see "Installing the Verity search server separately" on page 39.

Uninstalling ColdFusion MX 7

The steps for uninstalling ColdFusion MX 7 depend on your operating system. This section contains instructions for Windows and UNIX systems.

Uninstalling ColdFusion MX 7 from Windows systems

Uninstalling ColdFusion MX 7 deletes all program files and related components from your computer.

To uninstall ColdFusion MX 7 from Windows:

1. Select Start > Settings > Control Panel > Add/Remove Programs > Macromedia ColdFusion MX 7 with JRun 4.
2. Click Change/Remove.
3. When the program completes, remove any remaining files and directories in the *cf_webapp_root* directory.
4. In some cases, the uninstall program may require you to restart the computer.

ColdFusion MX 7 is deleted from your server.

Uninstalling ColdFusion MX 7 from UNIX systems

Uninstalling ColdFusion MX 7 deletes all program files and related components from your computer.

To uninstall ColdFusion MX 7 from UNIX:

1. Log in as root.
2. Enter the following command to go to the *cf_webapp_root*/uninstall directory:

   ```
   cd cf_webapp_root/uninstall
   ```

3. Enter the following command:

   ```
   ./uninstall.sh
   ```

4. When the program completes, remove any remaining files and directories in the *cf_webapp_root* directory.

ColdFusion MX 7 is deleted from your server.

CHAPTER 4
Installing the J2EE Configuration

This chapter describes how to install, deploy, and undeploy Macromedia ColdFusion MX 7 Enterprise Edition in the J2EE configuration. It includes overview information, specific instructions for installing Macromedia JRun 4 (which automatically deploys and configures ColdFusion MX 7), and general instructions for use with all J2EE application servers.

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J2EE application servers

One of the main advantages of ColdFusion MX 7 is that it can be installed as an integrated server (the server configuration) or deployed as a Java application on a standards-based J2EE application server (multiserver configuration and J2EE configuration). In addition to greater flexibility, this allows your ColdFusion applications to leverage features of the J2EE architecture, such as support for multiple application instances and multiple-instance clustering.

You can deploy ColdFusion MX 7 in the J2EE configuration using a J2EE application server, such as JRun 4 or IBM WebSphere. When you use the J2EE EAR/WAR configuration, you can use an existing J2EE application server; the installation wizard creates a web application archive (WAR) or enterprise application archive (EAR) file, which you then deploy using the tools provided by your chosen application server.

Choosing EAR or WAR deployment

In the J2EE environment, you deploy applications in one of the following formats:

Web application archive file Contains the ColdFusion MX 7 application. A web application archive (also called a WAR) uses a directory structure that contains a WEB-INF/web.xml deployment descriptor, which defines the servlets and context parameters it uses. J2EE application servers can deploy web applications in this directory structures as-is or in compressed WAR files that contain these directory structures. However, ColdFusion MX 7 must run from an expanded directory structure:

```
cfusion (cfusion.war)
  WEB-INF
    web.xml
  CFIDE
  cfdocs
CFIDE (rds.war)
  WEB-INF
    web.xml
```

The cfusion.war file contains the ColdFusion MX 7 web application. The rds.war file is a web application that redirects requests from /CFIDE to /*context-root*/CFIDE. It forwards requests to the ColdFusion MX Administrator when ColdFusion MX 7 uses a context root other than a forward slash (/).

Enterprise application archive file Contains the ColdFusion MX 7 and RDS redirector web applications. An enterprise application archive (also called an EAR) uses a directory structure that contains a META-INF/application.xml deployment descriptor, which defines the web applications that it contains. J2EE application servers can deploy enterprise applications in these directory structures as-is or in compressed EAR files that contain these directory structures. However, ColdFusion MX 7 must run from an expanded directory structure:

```
cfusion-ear
  META-INF
    application.xml
  cfusion-war
    WEB-INF
      web.xml
    CFIDE
    cfdocs
  rds.war
    WEB-INF
      web.xml
```

If your J2EE application server supports enterprise applications, you should install and deploy the EAR file. For more information, see "Installing an EAR file or WAR files" on page 34.

Context root

Because the J2EE environment supports multiple, isolated web applications running in a server instance, J2EE web applications running in a server are each rooted at a unique base URL, called a *context root* (or context path). The J2EE application server uses this initial portion of the URL (that is, the portion immediately following http://*hostname*) to determine which web application services an incoming request.

For example, if you are running ColdFusion MX 7 with a context root of *cfmx*, you display the ColdFusion MX Administrator using the URL http://localhost/*cfmx*/CFIDE/administrator/index.cfm.

Most J2EE application servers allow one application in each server instance to use a forward slash (/) for the context root. Setting the context root to / for the ColdFusion MX 7 application is especially useful when serving CFM pages from the web server, because it supports the functionality most similar to previous ColdFusion versions. In addition, the RDS web application is not required if you use a context root of /.

When you deploy the ColdFusion MX 7 EAR file, it uses the context root that you specified when you ran the installation wizard, which copied your specification to the `context-root` element of the META-INF/application.xml file. When you deploy ColdFusion MX 7 as a WAR file, you use application-server-specific functionality to define the context root.

Note: Each web application running in a server instance must have a unique context root. The JRun default web application uses / for a context root, so if you want to use / for the ColdFusion MX 7 context root when you deploy on JRun, you must either delete the default-war application or change the default-war context root by editing the default-ear/META-INF/application.xml file.

Multiple instances

When you use the J2EE configuration, you can define multiple server instances on a single computer, each running ColdFusion MX 7. Running multiple instances of ColdFusion MX 7 has the following advantages:

Application isolation You deploy an independent application to each server instance. Each server instance has separate settings, and because each server instance runs in its own instance of the JVM, problems encountered by one application have no effect on other applications.

Load balancing and failover You deploy the same application to each server instance and add the instances to a cluster. The web server connector optimizes performance and stability by automatically balancing load and by switching requests to another server instance when a server instance stops running.

For more information on configuring ColdFusion MX 7 on multiple server instances, including detailed information for configuring multiple server instances when running on JRun 4, see *Configuring and Administering ColdFusion MX*. The multiserver configuration provides the instance manager to make configuring ColdFusion MX 7 on multiple servers easier; however, you can also configure ColdFusion MX 7 on multiple servers manually by deploying EAR files and WAR files on multiple server instances.

Platforms

Full ColdFusion MX 7 functionality is available on Windows, Linux, and Solaris. Additionally, you can install and deploy the all-Java ColdFusion MX 7 J2EE configuration on other platforms, although without the functionality provided by platform-specific binary files (C++ CFXs).

Preparing to install using the J2EE configuration

This section provides installation instructions for the ColdFusion MX 7 J2EE configuration. When you install the J2EE configuration, you have the following options:

New installation–multiserver configuration Use this option to install a copy of Macromedia JRun 4 with ColdFusion MX 7 deployed and configured as an enterprise application in a JRun server. For installation details, see "Installing ColdFusion MX 7 using the multiserver configuration" on page 26. Macromedia recommends this configuration option if JRun or another J2EE application server is not already installed on the computer and you plan to use JRun 4 instead of another J2EE application server.

New installation–create an EAR or WAR file Use this option if you already have a J2EE application server running on the computer. The installation wizard creates an EAR file or two WAR files, which you deploy using J2EE application-server-specific tools or utilities. For installation details, see "Installing an EAR file or WAR files" on page 34.

Installing an EAR file or WAR files

If your computer is already running a J2EE application server, the installation wizard creates an EAR file or WAR files, which you deploy using application-server-specific tools.

The ColdFusion MX 7 J2EE configuration must run from an expanded directory structure. Different J2EE application servers have different functionality with regard to deployment and an expanded directory structure, as follows:

Deploy compressed archive to working directory On some J2EE application servers (such as IBM WebSphere), the deployment process expands the EAR/WAR file into a working directory and, from that point forward, the expanded directory is considered to be the application. For these application servers, you deploy the compressed EAR/WAR file and work in the resulting directory structure.

Deploy expanded archive as working directory On other application servers (such as JRun 4 and BEA WebLogic), the deployment process expands the EAR/WAR file into a temporary directory and (conceptually), the compressed EAR/WAR file is still considered to be the application. For these application servers, you must expand the EAR/WAR file manually, and then deploy the expanded directory structure, which becomes your working directory.

The following sections provide installation procedures for Windows and UNIX systems. For more about deployment and configuration, see "ColdFusion MX 7 J2EE deployment and configuration" on page 39.

Installing an EAR file or WAR files in Windows

This section explains how to install the ColdFusion MX 7 J2EE configuration in Windows. If you are updating an existing deployment of ColdFusion MX or ColdFusion MX 6.1 for J2EE, see "Updating from ColdFusion MX or ColdFusion MX 6.1 for J2EE" on page 38 before you continue.

Note: The Windows installer requires a computer that supports at least 256 colors.

To install ColdFusion MX 7 in Windows (J2EE configuration):

1. Read the online version of the Release Notes for any late-breaking information or updates. For more information, see www.macromedia.com/go/proddoc_releasenotes.
2. Ensure that your operating system meets the system requirements described in "System requirements" on page 10.
3. Review the "Installation considerations for Windows" on page 12and "Installation considerations for all platforms" on page 11.
4. Determine and record environment information, as described in "Preparing to install using the J2EE configuration" on page 34.
5. Determine the answers to the questions in the section "Gathering information necessary to install ColdFusion MX 7" on page 13
6. Close any applications that are currently running on your computer.
7. Insert the CD or download the setup file from the Macromedia website.
8. If the installation wizard does not start automatically when you insert the CD, locate the setup.exe file on the CD and double-click it. If you are installing from a network or a downloaded file, locate the ColdFusion MX 7 installation executable file (coldfusion-70-win.exe) and double-click it.

   The installation wizard starts.
9. Follow the instructions in the wizard, and let it run to completion.
10. Deploy ColdFusion MX 7 and configure Java settings, as required by your application server. For more information, see "ColdFusion MX 7 J2EE deployment and configuration" on page 39.
11. Open ColdFusion MX Administrator to run the configuration wizard.
12. To install the ColdFusion MX 7 Extensions for Dreamweaver, double-click the cfmx7dreamweaverextensions.mxp file, which is located in the *cf_webapp_root*/wwwroot/CFIDE/installers directory.
13. To install ColdFusion MX 7 Report Builder, double-click the CFReportBuilderInstaller.exe file, which is in the *cf_webapp_root*/CFIDE/installers directory. For more information, see "Installing the ColdFusion Report Builder" on page 38.
14. Configure and manage your system, as described in Chapter 5, "Configuring Your System," on page 45.

15. Code and test ColdFusion CFM pages.

    Store CFM pages under the web application root (either cfusion-ear\cfusion-war or cfusion-war) and access these pages using a URL of the form http://*hostname*:*portnumber*/*context-root*/*filename*.cfm, as follows:

    - *hostname* The machine name, IP address, or localhost.
    - *portnumber* The port number used by your application server's web server.
    - *contextroot* The context root for the ColdFusion MX 7 web application. For more information, see "Context root" on page 33.
    - *filename* The directory path and file to display. The path is relative to the cfusion-war directory.

    For example, to display a CFM file located at C:\JRun4\servers\myserver\cfusion-ear\cfusion-war\eisapp\index.cfm using the built-in JRun web server and a context root of cfmx, you specify the URL as http://localhost:8100/cfmx/eisapp/index.cfm.

Installing an EAR file or WAR files on UNIX

This section explains how to install the ColdFusion MX 7 J2EE configuration on UNIX. If you are updating an existing deployment of ColdFusion MX or ColdFusion MX 6.1 for J2EE, see "Updating from ColdFusion MX or ColdFusion MX 6.1 for J2EE" on page 38 before you continue.

By default, the ColdFusion MX 7 J2EE installation places files in the /opt/cfmx7 directory. To install into a different directory, you must create that directory before you run the installation.

To install ColdFusion MX 7 on UNIX (J2EE configuration):

1. Read the online version of the Release Notes for any late-breaking information or updates. For more information, see www.macromedia.com/go/proddoc_releasenotes.
2. Ensure that your operating system meets the system requirements described on the Macromedia web site at www.macromedia.com/go/sysreqscf.
3. Review the "Installation considerations for UNIX" on page 12 and "Installation considerations for all platforms" on page 11.
4. Determine and record environment information, as described in "Preparing to install using the J2EE configuration" on page 34.
5. Determine the answers to the questions in the section "Gathering information necessary to install ColdFusion MX 7" on page 13.
6. Log in as root.
7. Copy the installation file that is appropriate for your platform and locale from the CD or Macromedia website, and save it to a directory on your local disk.

   The following are the installation files for supported J2EE configuration platforms:

   - coldfusion-70-lin.bin
   - coldfusion-70-sol.bin
   - coldfusion-70-other.jar

8. Using the `cd` command, go to the directory with the installation file.
9. Start the installation with the following command:

   `./<filename> -i console`

   The installation program starts.

   To use the coldfusion-70-other.jar file to install on a UNIX platform other than Solaris or Linux, enter the following command (for more information, see "Installation considerations for UNIX" on page 12):

   java_home`/bin/java -jar coldfusion-70-other.jar -i console`

   Note: To run the UNIX installer in GUI mode, type **./<*filename*> -i gui.**

10. Follow the prompts, and let the installation program run to completion.

    Caution: For security reasons, it is crucial that you do not use root for the runtime user.

11. Deploy ColdFusion MX 7 and configure Java settings, as required by your application server. For more information, see "ColdFusion MX 7 J2EE deployment and configuration" on page 39.

    Note: If you deployed the rds.war file, and an error message indicates that RDS is not installed or not enabled, edit the rds.properties file to match the ColdFusion context root, restart the application server, and re-open the ColdFusion MX Administrator.

12. Open the ColdFusion MX Administrator to run the Configuration Wizard.
13. Configure and manage your system, as described in Chapter 5, "Configuring Your System," on page 45.
14. Code and test ColdFusion MX 7 CFM pages.

    Store CFM pages under the web application root (either cfusion-ear/cfusion-war or cfusion-war) and access these pages using a URL of the form http://*hostname*:*portnumber*/*context-root*/*filename*.cfm, as follows:

    - *hostname* The machine name, IP address, or localhost.
    - *portnumber* The port number used by your application server's web server.
    - *contextroot* The context root for the ColdFusion MX 7 web application. For more information, see "Context root" on page 33.
    - *filename* The directory path and file to display. The path is relative to the cfusion-war directory.

    For example, to display a CFM file located at /opt/jrun4/servers/myserver/cfusion-ear/cfusion-war/eisapp/index.cfm using the built-in JRun web server and a context root of cfmx, you specify the URL as http://localhost:8100/cfmx/eisapp/index.cfm.

Updating from ColdFusion MX or ColdFusion MX 6.1 for J2EE

If you previously deployed ColdFusion MX for J2EE or the ColdFusion MX 6.1 J2EE configuration on your application server, you must also perform the following steps as part of the installation procedure:

1. As appropriate for your application server, either stop the ColdFusion application and RDS application (if it is running), or stop the application server before you start the installation wizard.
2. (Windows only) If you installed the SequelLink ODBC Agent, stop the ColdFusion MX or ColdFusion MX 6.1 ODBC services before you start the installation wizard.
3. Copy application files to a backup directory.
4. Save settings by copying the ColdFusion MX 6.1files *cf_webapp_root*/WEB-INF/cfusion/lib/neo-*.xml to a backup directory
5. Before you deploy ColdFusion MX 7, undeploy the existing ColdFusion MX or ColdFusion MX 6.1 application using your application-server-specific undeploy functionality.
6. Create a directory named cf6settings in the *cf_webapp_root*/WEB-INF/cfusion/lib directory.
7. Copy the backed up ColdFusion MX 6.1files settings files to the ColdFusion MX 7 cfusion/lib/cf6settings directory.
8. Edit the ColdFusion MX 7 cfusion/lib/adminconfig.xml file by setting the value of the `runmigrationwizard` and the `migratef6` switch to true.
9. Restart the ColdFusion MX 7 application.
10. Browse to ColdFusion MX Administrator to run the migration wizard.

Note: Migration from ColdFusion 4.5 or 5 to the ColdFusion MX J2EE configuration is not supported.

Installing the ColdFusion Report Builder

ColdFusion MX 7 reporting consists of server-side runtime processing and the ColdFusion Report Builder. The server-side processing is available on any platform, however, the ColdFusion Report Builder runs on Windows only.

To install the ColdFusion Report Builder:

1. Access the ColdFusion Report Builder installer from one of the following locations:
   - **The ColdFusion MX 7 installation** Go to the *webroot*/CFIDE/installers directory.
   - **The ColdFusion MX 7 CD** Use the CD Browser to select the ColdFusion MX reporting option.
   - **The Macromedia web site** Go to www.macromedia.com/go/cfmx7_reporting/.
2. Double-click the CFReportBuilderInstaller.exe file.
3. Follow the instructions in the installation.

Installing the Verity search server separately

To enable searches using Verity, you must install the Verity search server separately if either of the following is true:

- You are running ColdFusion in a J2EE configuration with a WAR or EAR file.
- You want to install the Verity search server on a different machine from the one where you install ColdFusion MX 7.

You should start by planning the answers to questions asked by the Installer:

- "Where would you like to install?" _____

  Macromedia recommends that you specify a location that is not a subdirectory of the application server directories.
- The IP address of the ColdFusion Server that this machine will accept requests from_____

The IP address is necessary only if you are installing Verity search server on a different computer from the one where you installed ColdFusion MX 7. If you do not specify an IP address, the Installer uses the default 127.0.0.1, which is localhost.

To install the Verity search server separately:

1. Download your platform-specific installer from the Macromedia website at www.macromedia.com/go/verity or copy it from the ColdFusion MX CD, as follows:
   - Windows - coldfusion-search.win.exe
   - Linux - coldfusion-search-lin.bin
   - Solaris - coldfusion-search-sol.bin
2. Close any applications that are currently running on your computer.
3. Run the platform-specific installer using the appropriate command.

   Note: Only console installations are available for UNIX systems.
4. (UNIX only) If you chose not to start the Verity search server automatically, start, stop, and restart Verity by running *verity_root*/bin/cfmxsearch -start | -stop | -restart.

ColdFusion MX 7 J2EE deployment and configuration

The J2EE specification allows application servers to handle compressed and expanded deployments in a server-dependent manner; each application server has its own deployment and configuration mechanism, as the following table shows:

Application server	Deployment mechanism	Expanded or compressed deployment
JRun 4	Auto deploy to server root	Expanded
IBM WebSphere	IBM WebSphere Administrative Console	Compressed
BEA WebLogic	WebLogic Administration Console	Expanded

For basic deployment information, see your J2EE application server documentation. ColdFusion MX 7 deployment instructions differ for each J2EE application server. For up-to-date information on deploying ColdFusion MX 7 on a variety of J2EE application servers, see www.macromedia.com/go/cfmx7_j2eecert.

For more information, see "Deployment" on page 40 and "Configuration" on page 42.

Deployment

The instructions at www.macromedia.com/go/cfmx7_j2eecert provide detailed, application-server-specific ColdFusion MX 7 deployment instructions. Depending on your application server, the instructions describe deployment of an EAR file or WAR files in either a compressed archive or an expanded directory structure. When you deploy ColdFusion MX 7 on an existing version of JRun 4, you must expand the EAR file or WAR files manually before deployment.

The following procedures describe EAR and WAR deployment on an existing version of JRun 4.

Tip: The instructions for expanding the cfusion.ear file also apply when deploying ColdFusion MX 7 on BEA WebLogic.

Expanding and deploying an EAR file on JRun 4

Before you deploy ColdFusion MX 7 as an enterprise application on an existing JRun server, you must expand the EAR and the WAR files that it contains.

Note: If you are already using an application with an empty context root, you must use a context root other than / for the cfusion-ear file. If you specified / when you installed ColdFusion MX 7, you can change it by opening the cfusion-ear/META-INF/application.xml file in a text editor and modifying the context-root element. After you deploy the cfusion-ear file, you access ColdFusion pages by specifying http://*hostname:portnumber/contextroot/pagename*.cfm.

To deploy ColdFusion MX 7 as an enterprise application on JRun 4:

1. Run the installation wizard for your platform, as described in "Installing an EAR file or WAR files" on page 34. Select the EAR option. When you get to the deployment step, return to these instructions.

   If you are updating an existing deployment of ColdFusion MX or ColdFusion MX 6.1 for J2EE, you must undeploy ColdFusion MX or ColdFusion MX 6.1 for J2EE before you deploy ColdFusion MX 7, as described in "Updating from ColdFusion MX or ColdFusion MX 6.1 for J2EE" on page 38.

2. Expand the EAR file by performing the following steps:

   a. Open a console window, navigate to the directory that contains the EAR file, and make a new directory named cfusion-ear:

   ```
   md cfusion-ear (mkdir cfusion-ear on UNIX)
   ```

   b. Change to the cfusion-ear directory and expand the cfusion.ear file with the `jar` command:

   ```
   cd cfusion-ear
   java_home/bin/jar -xvf ../cfusion.ear
   ```

   This expands the cfusion.ear file into cfusion.war and rds.war (rds.war is not included if you specified a context root of / when you ran the installation wizard).

c In cfusion-ear, make a new directory named cfusion-war.

```
md cfusion-war (mkdir cfusion-war on UNIX)
```

d Change to the cfusion-war directory and expand the cfusion.war file with the `jar` command:

```
cd cfusion-war
java_root/bin/jar -xvf ../cfusion.war
```

This expands the cfusion.war file.

e (If rds.war exists) Go up one level to cfusion-ear, make a new directory named rds-war.

```
cd ..
md rds-war (mkdir rds-war on UNIX)
```

f (If rds.war exists) Change to the rds-war directory and expand rds.war with the `jar` command:

```
cd rds-war
java_root/bin/jar -xvf ../rds.war
```

This expands rds.war.

g Go up one level to the cfusion-ear file, and delete the cfusion.war and rds.war files:

```
cd ..
del cfusion.war (rm cfusion.war on UNIX)
del rds.war (rm rds.war on UNIX)
```

h Open the cfusion-ear/META-INF/application.xml file in a text editor.

i Change the `web-uri` element from cfusion.war to cfusion-war (or the name of the directory that contains the expanded cfusion.war file). Change the `web-uri` element for rds.war to rds-war. A directory name in the `web-uri` element cannot contain a dot.

j Save the application.xml file.

3. Deploy ColdFusion MX 7 by copying the cfusion-ear directory structure to the *jrun_root*/servers/*servername* directory. If auto deploy is enabled, JRun 4 either deploys the application immediately (if the JRun server is running), or when you start the JRun server.
4. Review the server log (*jrun_root*/logs/*servername*-event.log) to ensure that ColdFusion MX 7 deployed successfully.

Expanding and deploying WAR files on JRun 4

When you deploy ColdFusion MX 7 as a web application on an existing JRun server, you expand the cfusion.war file, deploy it, and optionally modify the context root. For complete information on deploying ColdFusion MX 7 on JRun 4 as a WAR file, see www.macromedia.com/go/cfmx7_j2eecert.

Configuration

After you deploy the ColdFusion MX 7 application, you define JVM arguments. Each J2EE application server has a different method for defining JVM arguments. Depending on your server, you can update variables in a batch file or shell script, define arguments in an administrative interface, modify the java.library.path JVM argument directly, or modify the system path directly. You define two types of JVM arguments:

- Platform-specific items for the `java.library.path` argument
- Java arguments for the `java.args` argument

Note: When running JRun 4, you configure these settings through the Settings panel of the JRun Management Console (JMC) or by using a text editor to modify the *jrun_root*/bin/jvm.config file.

After you deploy the ColdFusion MX 7 J2EE configuration, you can run basic ColdFusion pages and start the ColdFusion MX Administrator. However, certain types of ColdFusion MX 7 functionality are performed through platform-specific binary files (that is, compiled C++ files, not Java bytecode), which are provided for Windows, Solaris, and Linux. In addition, some of these features require server-specific environment settings. The following list includes platform-specific functionality and the steps you must perform to enable their use:

COM (Windows only) Add the following jIntegra binary directories to the JVM's native library path (`java.library.path`):

```
WEB-INF/cfusion/jintegra/bin
WEB-INF/cfusion/jintegra/bin/international
```

Note: If your J2EE server runs on an operating system other than Windows, Solaris, or Linux, you can still run ColdFusion MX 7, but the functionality that is provided through platform-specific binary files is unavailable. For a complete list of supported platforms, see "System requirements" on page 10.

Depending on your operating system, you might have to add the following to the `java.args` JVM argument:

COM (Windows only) Add the following arguments:

```
-DJINTEGRA_NATIVE_MODE -DJINTEGRA_PREFETCH_ENUMS
```

CORBA (optional) Copy the vbjorb.jar file to the WEB-INF/cfusion/lib directory and define the following argument:

```
-Xbootclasspath/a:"cf_webapp_root/WEB-INF/cfusion/lib/vbjorb.jar"
```

Charting (UNIX only) Define the following argument:

```
-Djava.awt.graphicsenv=com.gp.java2d.ExGraphicsEnvironment"
```

For JDK 1.4.1 and later versions, specify `com.gp.java2d.ExHeadlessGraphicsEnvironment` instead of `com.gp.java2d.ExGraphicsEnvironment`.

Security In addition to enabling sandbox security in the ColdFusion MX Administrator, the application server must be running a security manager (`java.lang.SecurityManager`) and you must define the following JVM arguments:

```
-Djava.security.manager
  -Djava.security.policy="cf_webapp_root/WEB-INF/cfusion/lib/coldfusion.policy"
  -Djava.security.auth.policy="cf_webapp_root/WEB-INF/cfusion/lib/
  neo_jaas.policy"
```

Additional setup To use cfregistry on Windows, to use the `cfreport` tag for Crystal Reports, and to use any C++ CFX custom tags, you must add cfusion/lib to the Java library path. Add the following directory to the JVM's native library path (`java.library.path`):

```
WEB-INF/cfusion/lib
```

Additionally, certain application servers require that you disable server-specific policy-file permissions in order to enable the ColdFusion security manager. For more information, see the application-server-specific instructions at www.macromedia.com/go/cfmx7_j2eecert.

If the version of the tools.jar file in your application server's JRE is different from the version of the tools.jar file in the WEB-INF/cfusion/lib directory, you should rename or delete the WEB-INF/cfusion/lib/tools.jar file to ensure that your application server's tools.jar file is used.

ColdFusion MX 7 J2EE configuration directory structure

The following table describes the directories under the *cf_webapp_root* web application directory when you use the J2EE configuration:

Directory	Description
cfdocs	Documentation for ColdFusion MX 7.
CFIDE	Files for the ColdFusion MX Administrator.
WEB-INF/cfclasses	Compiled ColdFusion templates in your ColdFusion MX applications.
WEB-INF/cfc-skeletons	Support for ColdFusion components that are exported as web services.
WEB-INF/cfform	Files that support Flash forms.
WEB-INF/cftags	Templates for ColdFusion MX.
WEB-INF/gateway	Files that support event gateways.
WEB-INF/cfusion/bin	Executable files used by ColdFusion MX.
WEB-INF/cfusion/cfx	CFX tag include file and examples.
WEB-INF/cfusion/charting	Files for the ColdFusion MX graphing and charting engine.
WEB-INF/cfusion/Custom Tags	Repository for your custom tags.
WEB-INF/cfusion/db	Sample databases: in Windows, the files for sample Microsoft Access databases and ODBC services; on UNIX, the files for the sample PointBase databases. Also includes software for installing ODBC support and other database system-specific files.

Directory	Description
WEB-INF/cfusion/jintegra	JIntegra programs, libraries, and other supporting files (for example, to integrate Java and COM code; manage access to ActiveX controls (OCXs) that are hosted in a graphical user interface (GUI) container; and register the JVM and type libraries).
WEB-INF/cfusion/lib and WEB-INF/lib	JAR, XML, property, and other files that are the foundation of ColdFusion MX, including functionality such as queries, charting, mail, security, Verity searches, and system probes.
WEB-INF/cfusion/logs	ColdFusion MX log files.
WEB-INF/cfusion/Mail	Files, including spool files, used by ColdFusion MX for mail.
WEB-INF/cfusion/registry	Used only in UNIX, by the `cfregistry` tag.
WEB-INF/cfusion/stubs	Compiled code for web services.
WEB-INF/cfusion/verity	Verity collections.

Undeploying ColdFusion MX 7

To undeploy ColdFusion MX 7 in the J2EE configuration, you use application-server specific undeploy tools and methods.

To undeploy ColdFusion MX 7 in the J2EE configuration:

1. Remove all ColdFusion MX 7 specifications from the `java.args` and `java.library.path` JVM arguments used by your application server.
2. (Windows only) If you installed ODBC support, remove the ODBC Windows services by navigating to the *cf_webapp_root*\WEB_INF\cfusion\db\SequeLink Setup directory and executing the RemoveSequeLink.bat file.
3. If necessary, copy and save CFM pages from the ColdFusion MX 7 web application root.
4. Undeploy the ColdFusion MX 7 web application, using application-server-specific undeploy functionality. In JRun 4, you undeploy by deleting the *jrun_root*/server/*servername*/cfusion-ear directory.
5. If necessary, restart the application server.

CHAPTER 5
Configuring Your System

This chapter describes how to manage ColdFusion MX 7 services and processes, how to configure web servers manually, and how to change user accounts and configure databases for ColdFusion MX 7.

Note: In this chapter, *cf_root* refers to your installation directory in the server configuration. By default, this directory is C:\CFusionMX7 in Windows, and /opt/coldfusionmx7 on UNIX. *Jrun_root* refers your installation directory in the multiserver configuration. By default, this directory is C:\JRun4 in Windows and /opt/jrun4 on UNIX.

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Overview of configuration tasks

The following table describes when to do the configuration tasks that are documented in this chapter:

Configuration task	When to do it
"Managing ColdFusion MX 7" on page 46	You must stop and restart ColdFusion MX 7 after you enable or disable security in the ColdFusion MX Administrator or change any of the Java and JVM settings, in order for your changes to take effect. You can do this at any time after you install ColdFusion MX 7.
"Configuring web servers" on page 49	When moving to a production server or when the built-in web server no longer meets your needs.
"Enabling CORBA support" on page 57	You must do this only if you must make CORBA invocations from ColdFusion MX 7. You can do this after you install ColdFusion MX 7 and before you make a CORBA call from ColdFusion MX 7.
"Disabling Remote Development Services" on page 59	For security reasons, disable RDS when you move an application to the production environment.
"Disabling JSP functionality (server configuration only)" on page 60	When running ColdFusion MX 7 Enterprise Edition in a hosted environment, you might want to disable JSP processing.
"Changing the ColdFusion MX 7 user account in Windows" on page 61	You must do this only if you discover that the account under which ColdFusion MX 7 is running has inappropriate access rights; for example, to interact with remote data sources, other application pages, or COM objects. You can do this after you install ColdFusion MX 7 and before you deploy your application.
"Connecting to an external JDBC Type 4 data source" on page 61	You must do this only if you use a Type 4 database driver that is not included in ColdFusion MX 7. You can do this after you install ColdFusion MX 7 and before you set up the data source in the ColdFusion MX Administrator.

For information about additional configuration tasks, see *Configuring and Administering ColdFusion MX*.

Managing ColdFusion MX 7

The ColdFusion MX 7 installation creates a few services in Windows and a single process on UNIX. The following sections describe how to manage the services:

- "Managing ColdFusion MX 7 services in Windows" on page 47
- "Managing the ColdFusion MX 7 process on UNIX" on page 48

Managing ColdFusion MX 7 services in Windows

This section describes the ColdFusion MX 7 services and explains how to manage them.

Overview of services

The ColdFusion MX 7 server configuration installation creates the following service in Windows 2000, Windows XP, and Windows 2003:

Service	Purpose
ColdFusion MX 7 Application Server	The main ColdFusion service. ColdFusion pages cannot be processed if this service is not running.

The multiserver configuration installation creates the following services in Windows 2000, Windows XP, and Windows 2003:

Service	Purpose
Macromedia JRun Admin Server	Runs the admin JRun server, used by the JRun Management Console (JMC).
Macromedia JRun CFusion Server	Runs the JRun cfusion server. Contains ColdFusion MX 7 deployed as an enterprise application.

All Windows configurations install the following services for ODBC support:

Service	Purpose
ColdFusion MX 7 ODBC Agent	The service used to configure data sources for the ColdFusion MX ODBC Server.
ColdFusion MX 7 ODBC Server	The middle-tier service for ODBC connections that use the DataDirect drivers for Microsoft Access and ODBC Socket.

All Windows configurations install the following services for Verity support:

Service	Purpose
ColdFusion MX 7 Search Service	Provides support for the ColdFusion MX 7 search tags.. You cannot use the ColdFusion MX 7 search tags if this process is not running..

Note: If you have ColdFusion MX 6.1 installed, any services named ColdFusion MX refer to ColdFusion MX 6.1 services; ColdFusion MX 7 services are named ColdFusion MX 7.

Starting and stopping services

This section describes how to start and stop Windows services.

Note: In the ColdFusion MX Administrator, if you enable or disable security or change any option in the Java and JVM Settings page, you must stop and restart ColdFusion MX 7 for your changes to take effect. This applies to the server configuration only; in the multiserver and J2EE configurations, you use application-server-specific methods to update Java settings.

To start or stop a ColdFusion service:

1. Open the Services dialog box:
   - In Windows 2000, Windows XP, or Windows 2003, select Start > Settings > Control Panel > Administrative Tools > Services.
   - For other Windows platforms, see the Windows online Help.

   If a service is running, its status appears as Started in the Status column. If it is not running, no status appears for the service.
2. Right-click a service, and select Stop, Start, or Restart.

   The Services window refreshes.

To set ColdFusion MX 7 to start automatically or manually:

1. Open the Services dialog box:
   - In Windows 2000, Windows XP, or Windows 2003, select Start > Settings > Control Panel > Administrative Tools > Services.
   - For other Windows platforms, see the Windows online Help.
2. In Windows 2000, Windows XP, or Windows 2003, right-click the service that you want to configure, and select Properties.
3. In the Properties dialog box, click the General tab.
4. Select one of the following options in the Startup Type frame or drop-down list box:
   - **Automatic** Starts the service automatically when you start the computer.
   - **Manual** Requires a user or dependent service to manually start the service.
5. Click OK.

Managing the ColdFusion MX 7 process on UNIX

This section describes the ColdFusion MX 7 process and explains how to manage it.

Note: This discussion applies to the ColdFusion MX 7 server configuration only. With the multiserver or J2EE configuration, you start and stop ColdFusion MX 7 by starting the application server.

Overview of the ColdFusion MX 7 process

The ColdFusion MX 7 installation creates a single process on UNIX called `cfusion`. To check whether it is running, use the following command:

```
ps -eaf | grep cfusion
```

If it is running, your computer returns something similar to the following line:

```
nobody 4528 1 10 12:44 pts/0 00:00:07 /opt/coldfusionmx/bin/cfusion -start
  default
```

Managing the process

The ColdFusion MX 7 process starts automatically when you start your computer and shuts down automatically when you shut down your computer.

In the ColdFusion MX Administrator, if you enable or disable security or change any option in the Java and JVM Settings page, you must stop and restart the ColdFusion MX 7 process for your changes to take effect. This applies to the server configuration only; in the multiserver and J2EE configurations, you use application-server-specific methods to update Java settings.

To manage the ColdFusion MX 7 process on UNIX:

1. Log in as root, if you have not already done so.
2. Enter the following command:

   ```
   cd cf_root/bin
   ```

3. Enter the appropriate command for what you need to do, as the following table describes:

Task	Command to enter
Start ColdFusion MX 7	`coldfusion start`
Stop ColdFusion MX 7	`coldfusion stop`
Restart ColdFusion MX 7	`coldfusion restart`
View performance information for ColdFusion MX 7	`coldfusion status`
Run Web Server Configuration Tool	`coldfusion wsconfig`

Configuring web servers

This section describes how to configure a web server to serve ColdFusion pages, for Windows and UNIX. Do this if you did not configure a web server automatically during installation, to change your web server, or to configure a web server for a cluster.

You configure an external web server connection using the Web Server Configuration Tool, which you can run either through a graphical user interface (GUI) or the command line. The Windows discussions describe GUI mode, and the UNIX instructions describe command-line mode; however, you can use GUI mode on UNIX if you have access to a graphical environment.

Tip: ColdFusion MX 7 provides batch files and shell scripts in the *cf_root*/bin/connectors directory to help you get started with command-line usage.

For more information on the Web Server Configuration Tool, including information on multihoming and distributed usage, see *Configuring and Administering ColdFusion MX*.

Note: If you cannot verify your configuration, repeat the procedure. If the problem persists, contact Macromedia Technical Support for assistance, or manually create the element that you cannot verify in the configuration (for example, manually add an entry to the Apache httpd.conf file, as described in this section).

Configuring web servers in Windows

This section explains how to configure the following web servers in Windows:

- Configuring IIS in Windows
- Configuring SunONE Web Server or iPlanet web server in Windows
- Configuring Apache web server in Windows

Configuring IIS in Windows

This section describes how to configure IIS for ColdFusion MX in Windows, and how to verify your configuration. You configure IIS using the Web Server Configuration Tool in either GUI or command-line mode. This discussion describes how to use GUI mode.

Tip: (Server configuration only) To use the command line, open the batch files located in *cf_root*\bin\connectors.

For more information, see the Web Server Management chapter in *Configuring and Administering ColdFusion MX*.

To configure IIS for ColdFusion MX 7 in Windows:

1. Start the Web Server Configuration Tool by selecting Start > Programs > Macromedia > ColdFusion MX 7 > Web Server Configuration Tool.
2. Click Add.
3. In the Server drop-down list box, select the host name and the server or cluster name that you want to configure. In the ColdFusion MX 7 server configuration, the server name is always coldfusion. Clustering support is not available on the server configuration.

   Note: The server or cluster does not have to reside on the web server computer.
4. In the Web Server Properties area, select IIS and specify the website. For IIS, you typically specify All.
5. Select the Configure web server for ColdFusion MX applications option.

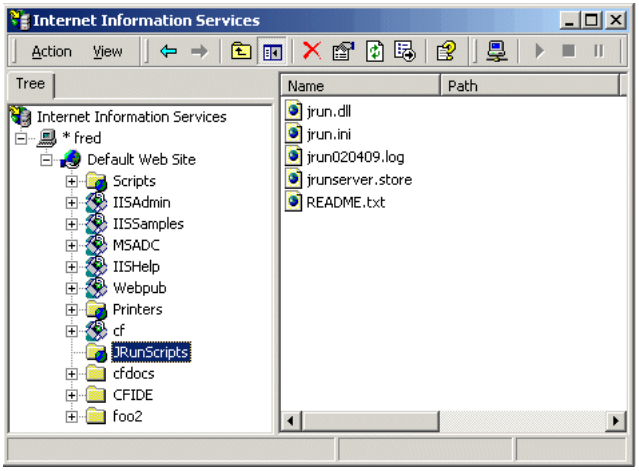
   Caution: Omitting the previous step causes your web server to serve ColdFusion MX 7 source code.
6. Click OK.
7. Copy the CFIDE and cfdocs directories from *cf_root*/wwwroot to your web server root directory. In addition, copy your application's CFM pages from *cf_root*/wwwroot to your web server root directory. In the multiserver configuration, these files are under the *jrun_root*/servers/cfusion/cfusion-ear/cfusion-war directory.

To verify your IIS configuration:

1. Verify that the following file was created: *cf_root*/runtime/lib/wsconfig/jrun.dll (server configuration) or *jrun_root*/lib/wsconfig/jrun.dll (multiserver configuration). On IIS6, this file is named jrun_iis6.dll.
2. For each of your IIS websites, verify that application mappings for .cfm, .cfml, .cfc, .cfswf, .cfr, .jsp, and .jws were added, as follows:
   a. In IIS, right-click an IIS website and select Properties.
   b. In the Properties dialog box, on the Home Directory tab, click Configuration.
   c. In the Application Configuration dialog box, click the App Mappings tab.

      You should see mappings for .cfm, .cfml, .cfc, .cfswf, .cfr, .jsp, and .jws in the Extension column.
3. Verify that each of your IIS websites has a virtual directory called JRunScripts.

   The following figure shows a sample JRunScripts virtual directory:



4. Verify that the JRunScripts directory in each of your IIS websites points to the correct location, as follows:
   a. Right-click the JRunScripts directory and select Properties.
   b. In the Properties dialog box, on the Virtual Directories tab, verify that the Local Path text box contains the following path:

      path/wsconfig/*number* (typically 1)

Configuring SunONE Web Server or iPlanet web server in Windows

This section describes how to configure SunONE Web Server 6 or iPlanet web server 6.x for ColdFusion MX 7 in Windows, and how to verify your configuration. You configure SunONE or iPlanet using the Web Server Configuration Tool in either GUI or command-line mode. This discussion describes how to use GUI mode.

Tip: (Server configuration only) To use the command line, open the batch files located in *cf_root*/bin/connectors.

For more information, see the Web Server Management chapter of *Configuring and Administering ColdFusion MX*.

To configure SunONE or iPlanet for ColdFusion MX 7 in Windows:

1. Start the Web Server Configuration Tool by selecting Start > Programs > Macromedia > ColdFusion MX 7 > Web Server Configuration Tool.
2. Click Add.
3. In the Server drop-down list box, select the host name and the server or cluster name to configure. For the ColdFusion MX 7 server configuration, this is always coldfusion. Clustering support is not available on the server configuration.

   Note: The server or cluster does not have to reside on the web server computer.
4. In the Web Server Properties area, select SunONE Web Server (iPlanet) or Netscape Enterprise Server (NES), and specify the path to the directory that contains the obj.conf file.
5. Select the Configure web server for ColdFusion MX applications option.

   Caution: Omitting the previous step causes your web server to serve ColdFusion MX 7 source code.
6. Click OK.
7. Copy the CFIDE and cfdocs directories from *cf_root*/wwwroot to your web server root directory. In addition, copy your application's CFM pages from *cf_root*/wwwroot to your web server root directory. In the multiserver configuration, these files are under the *jrun_root*/servers/cfusion/cfusion-ear/cfusion-war directory.

To verify your SunONE or iPlanet configuration:

1. Verify that the following file was created:
   cf_root/runtime\lib\wsconfig*number*\jrun_nsapi35.dll (server configuration) or
   jrun_root/lib/wsconfig/*number*/jrun_nsapi35.dll (multiserver configuration).
2. Open the SunONE configuration file, obj.conf, in the web server directory (for example, in C:\iPlanet\Servers\https-*yourserver*\config\obj.conf).
3. Verify that the following line was added to the file:

```
NameTrans fn="jrunfilter"
```

4. Verify that *#JRun* prefixes the following `NameTrans` line in the file:

```
#JRun NameTrans fn="pfx2dir" from="/servlet"
  dir="$docroot/servlet" name="ServletByExt"
```

5. Verify that the following object element is at the end of the file:

```
<Object name="jrun">
PathCheck fn="jrunfilter"
Service fn="jrunservice"
</Object>
```

Configuring Apache web server in Windows

This section describes how to configure the Apache web server for ColdFusion MX 7 in Windows, and how to verify your configuration. You configure Apache using the Web Server Configuration Tool in either GUI or command-line mode. This discussion describes how to use GUI mode.

Tip: (Server configuration only) To use the command line, open the batch files located in *cf_root*\bin\connectors.

For more information, see the Web Server Management chapter in *Configuring and Administering ColdFusion MX*.

To configure Apache for ColdFusion MX 7 in Windows:

1. Start the Web Server Configuration Tool by selecting Start > Programs > Macromedia > ColdFusion MX 7 > Web Server Configuration Tool.
2. Click Add.
3. In the Server drop-down list box, select the host name and the server or cluster name to configure. For the ColdFusion MX 7 server configuration, this is always coldfusion. Clustering support is not available on the server configuration.

   Note: The server or cluster does not have to reside on the web server computer.

4. In the Web Server Properties area, select Apache and specify the path to the directory that contains the httpd.conf file.
5. Select the Configure web server for ColdFusion MX applications option.

   Caution: Omitting the previous step causes your web server to serve ColdFusion MX 7 source code.

6. Click OK.
7. Copy the CFIDE and cfdocs directories from *cf_root*/wwwroot to your web server root directory. In addition, copy your application's CFM pages from *cf_root*/wwwroot to your web server root directory. In the multiserver configuration, these files are under the *jrun_root*/servers/cfusion/cfusion-ear/cfusion-war directory.

To verify your Apache configuration:

1. Verify that one of the following files was created:
   - *cf_root*\runtime\lib\wsconfig*number*\mod_jrun.so (Apache 1.3.2.7)
   - *cf_root*\runtime\lib\wsconfig*number*\mod_jrun20.so (Apache 2.x)

   In the multiserver configuration, this file is located under *jrun_root*/lib/wsconfig.
2. Open the Apache configuration file, httpd.conf, in your Apache conf directory. In Windows, the default is C:\Program Files\Apache Group\Apache\conf\httpd.conf.

   Verify that the following code is appended to this file:

```
# JRun Settings
LoadModule jrun_module "c:/CFusionMX7/runtime/lib/wsconfig/1/mod_jrun.so"
<IfModule mod_jrun.c>
  JRunConfig Verbose false
  JRunConfig Apialloc false
  JRunConfig Ssl false
  JRunConfig IgnoreSuffixmap false
  JRunConfig Serverstore
   "c:/CFusionMX7/runtime/lib/wsconfig/1/jrunserver.store"
  JRunConfig Bootstrap 127.0.0.1:51000
  #JRunConfig Errorurl <optionally redirect to this URL on errors>
  JRunConfig jrun-handler .jsp .jws .cfm .cfml .cfc .cfswf .cfr
</IfModule>
```

Configuring web servers on UNIX

This section explains how to configure the following web servers on UNIX:

- Configuring Apache web server on UNIX
- Configuring SunONE or iPlanet web server on UNIX

Configuring Apache web server on UNIX

This section describes how to configure the Apache web server for ColdFusion MX 7 on UNIX, and how to verify your configuration.

Note: When running the Web Server Configuration Tool on the multiserver configuration, wsconfig.jar is located in *jrun_root*/lib. On the server configuration only, you can also use the scripts in *cf_root*/bin/connectors, modifying them, as appropriate for your environment.

To configure the Apache web server for ColdFusion MX 7 on UNIX:

1. Enter the following command on a single line:

   ```
   wsconfig -server servername -ws Apache -dir <apache config directory> -
     coldfusion -v
   ```

   Note: You must enter the previous command as a single (long) line.

   The wsconfig file is in *cf_root*/runtime/bin (server configuration) or *jrun_root*/bin (multiserver configuration)

   The following is a sample command:

   ```
   /opt/cfusionmx7/runtime/bin/wsconfig -server coldfusion -ws Apache -dir
     /etc/httpd/conf  -coldfusion -v
   ```

   Note: For unique configurations (such as the preconfigured Apache web servers from Redhat or Sun), add the -bin and -script parameters, as described in *Configuring and Administering ColdFusion MX*.

2. Copy the CFIDE and cfdocs directories from *cf_root*/wwwroot to your web server root directory. In addition, copy your application's pages from *cf_root*/wwwroot to your web server root directory. In the multiserver configuration, these files are under the *jrun_root*/servers/cfusion/cfusion-ear/cfusion-war directory.

To verify your Apache configuration:

1. Verify that one of the following files was created:

   - *cf_root*/runtime/lib/wsconfig/*number*/mod_jrun.so (Apache 1.3.x)
   - *cf_root*/runtime/lib/wsconfig/*number*/mod_jrun20.so (Apache 2.x)

   In the multiserver configuration, this file is located under *jrun_root*/lib/wsconfig.

2. Open the Apache configuration file, httpd.conf, in your Apache conf directory. By default it is /etc/httpd/conf/httpd.conf.

   Verify that the following code is added to this file:

   ```
   # JRun Settings
   LoadModule jrun_module "/opt/CFusionMX7/runtime/lib/wsconfig/1/mod_jrun.so"
   <IfModule mod_jrun.c>
     JRunConfig Verbose false
     JRunConfig Apialloc false
     JRunConfig Ssl false
     JRunConfig Serverstore "/opt/CFusionMX7/runtime/lib/wsconfig/1/
     jrunserver.store"
     JRunConfig Bootstrap 127.0.0.1:51000
     #JRunConfig Errorurl <URL for errors>
     JRunConfig jrun-handler .jsp .jws .cfm .cfml .cfc
   </IfModule>
   ```

Configuring SunONE or iPlanet web server on UNIX

This section describes how to configure SunONE Web Server or iPlanet web server (4.x or 6.x) for ColdFusion MX 7 on UNIX, and how to verify your configuration.

Note: When running the Web Server Configuration Tool on the multiserver configuration, wsconfig.jar is located in *jrun_root*/lib. On the server configuration only, you can also use the scripts in *cf_root*/bin/connectors, modifying them, as appropriate for your environment.

To configure Netscape or iPlanet for ColdFusion MX 7 on UNIX:

1. Enter the following command on a single line:

   ```
   wsconfig -server servername -ws sunone | iplanet | nes -dir path_to_config
     -coldfusion -v
   ```

   Note: You must enter the previous command as a single (long) line. Specify sunone, iplanet or nes.

   The following is a sample command:

   ```
   /opt/cfusionmx7/runtime/bin/wsconfig -server coldfusion -ws sunone -dir
     path_to_config -coldfusion -v
   ```

2. Copy the CFIDE and cfdocs directories from *cf_root*/wwwroot to your web server root directory. In addition, copy your application's CFM pages from *cf_root*/wwwroot to your web server root directory. In the multiserver configuration, these files are under the *jrun_root*/servers/cfusion/cfusion-ear/cfusion-war directory.

To verify your Netscape or iPlanet configuration:

1. Verify that the following file was created:
   cf_root/runtime/lib/wsconfig/1/jrun_nsapi35.dll

   In the multiserver configuration, this file is located under *jrun_root*/lib/wsconfig.

2. Open the Netscape configuration file, obj.conf, in the web server directory (for example, in /usr/netscape/server4/https-surf/config/obj.conf).

3. Verify that the following line is in the file:

   ```
   NameTrans fn="jrunfilter"
   ```

4. Verify that #JRun prefixes the following `NameTrans` line in the file:

   ```
   #JRun NameTrans fn="pfx2dir" from="/servlet"
     dir="e:/netscape/servers/docs/servlet"
   ```

5. Verify that the following object element is at the end of the file:

   ```
   <Object name="jrun">
   PathCheck fn="jrunfilter"
   Service fn="jrunservice"
   </Object>
   ```

Installing Verity Locales

ColdFusion MX 7 lets you do Verity searches for languages other than English. For more information on Verity, see *Configuring and Administering ColdFusion MX*.

This section describes how to install a Verity Locales package from the Macromedia website, and how to switch to a different Verity Locales package.

To install Verity Locales:

1. In your browser, go to the following location on the Macromedia website:
   www.macromedia.com/go/verity

   Enter your ColdFusion MX 7 license key.
2. Download the appropriate Verity Locales package, and save it to your *cf_root* directory.
   - verity_asian_locales.zip - includes Japanese, Korean, Chinese (Simplified), and Chinese (Traditional)
   - verity_ee_me_locales.zip - includes Arabic, Bulgarian, Czech, Greek, Hebrew, Hungarian, Polish, Russian, and Turkish
   - verity_weuropean_locales.zip - includes Danish, Dutch, Finnish, French, German, Italian, Norwegian (Bokmal), Norwegian (Nynorsk), Portuguese, Spanish, and Swedish
   - verity_multilanguage_locale.zip
3. Extract the ZIP file in your *cf_root* directory.

   During extraction, the search files are automatically placed in the appropriate directories.
4. To use a different Verity Locales package (for example, English), repeat this procedure for the new Verity Locales package.

Enabling CORBA support

ColdFusion MX 7 supports third-party Object Request Brokers (ORBs) through its integration with Borland Visibroker. However, you must acquire the Common Object Request Broker Architecture (CORBA) software separately from Borland.

This section describes the system requirements for enabling CORBA support, and explains how to install and configure Visibroker to work with ColdFusion MX 7.

System requirements

You must have all of the following components installed on your computer before you can make CORBA invocations from ColdFusion MX 7:

- Borland Visibroker 4.5.1 for Java
- Java Runtime Environment (JRE) 1.2 for the Visibroker Interface Repository
- JRE 1.3 or later for ColdFusion MX 7

Installing Visibroker for CORBA connections

To install Visibroker for CORBA connections:

1. Install Visibroker on the CORBA server side.

   For more information, see the Borland Visibroker documentation.

2. Add the vbjorb.jar file to the ColdFusion MX 7 classpath, as follows:

   a. In the ColdFusion MX Administrator, select Server Settings > Java and JVM. When using the J2EE configuration, you add the vbjorb.jar file to the J2EE application server classpath, using the server-specific method.

   b. On the Java and JVM Settings page, in the Class Path text box, enter the path to your vbjorb.jar file (for example, C:\Inprise\vbroker\lib\vbjorb.jar). If you are using JVM version 1.4 or later, you must add `-Xbootclasspath/a:"C:/Inprise/vbroker/lib/vbjorb.jar"`, to the JVM Args text box.

   You only need the JAR file on the computer that is running ColdFusion MX 7; you do not need the full Visibroker installation.

   c. Click Submit Changes.

3. Configure a Visibroker connector in ColdFusion MX 7, as follows:

   a. In the ColdFusion MX Administrator, select Extensions > CORBA Connectors.

   b. In the CORBA Connectors page, click Register CORBA Connector.

   c. In the CORBA Connector page, enter information for the connector.

   The following is an example of a correctly configured connector:

Field	Value
ORB Name	visibroker
ORB Class Name	coldfusion.runtime.corba.VisibrokerConnector
Classpath	(none)
ORB Property File	C:\CFusionMX7\lib\vbjorb.properties

   The ORB Property File points to a Java properties file that contains the correct ORB settings for Visibroker.

   The contents of the vbjorb.properties file look like the following:

```
org.omg.CORBA.ORBClass=com.inprise.vbroker.orb.ORB
org.omg.CORBA.ORBSingletonClass=com.inprise.vbroker.orb.ORB
SVCnameroot=namingroot
```

   d. When you finish editing the page, click Submit.

   The CORBA Connectors page appears.

   e. Select the radio button to the left of your new CORBA connector and click Select ORB Connector.

   This sets the new connector to be the default.

4. Prepare your CORBA server side, as follows:

   a Start your Visibroker osagent service or process, if it is not already running, by entering the following command:

   ```
   osagent
   ```

   Note: If you must connect to an osagent in another subnetwork, include the following lines in the vbjorb.properties file:

   ```
   vbroker.agent.addr=<IP address of machine running OSAGENT>
   vbroker.agent.port=<port>
   ```

   b Start the Interface Repository and load it with the IDL file that you plan to use, by entering an `irep` command, as in the following example:

   ```
   irep myir MyIDLFile.idl
   ```

   c (Optional) Start the Naming Service by entering a command like the following:

   ```
   nameserv namingroot
   ```

   Note: The name of the Naming Service (*namingroot* in the previous example) must match the value for SVCnameroot in the vbjorb.properties file.

   d Start Visibroker on your CORBA server.

   For more information, see the Borland Visibroker documentation.

5. Restart ColdFusion MX 7 for your changes to take effect.

   For more information, see "Managing ColdFusion MX 7" on page 46.

You can now make CORBA invocations from ColdFusion MX 7. For more information about integrating CORBA objects into ColdFusion MX 7, see *ColdFusion MX Developer's Guide*.

Disabling Remote Development Services

If you use Macromedia Dreamweaver MX or Macromedia HomeSite+ to develop your applications, you can access a remote ColdFusion MX 7 server using HTTP. However, you must configure Remote Development Services (RDS) in your integrated development environment (IDE), and RDS must be enabled in ColdFusion MX 7. Using RDS, IDE users can securely access remote files and data sources, build SQL queries from these data sources, and debug CFML code.

Note: The ColdFusion Report Builder uses RDS for the Query Builder and for charting support.

However, for security reasons, Macromedia recommends that you disable RDS on a production server. To disable it, you must disable the RDSServlet mapping.

To disable the RDSServlet mapping:

1. Back up the web.xml file.

   This file is in the *cf_root*\wwwroot\WEB-INF directory in Windows and in the *cf_root*/wwwroot/WEB-INF directory on UNIX. In the multiserver and J2EE configurations, this file is under *cf_webapp_root*/WEB-INF.

2. Open the original web.xml file for editing.

3. Comment out the RDSServlet mapping, as the following example shows:

```
<!--
<servlet-mapping id="macromedia_mapping_9">
  <servlet-name>RDSServlet</servlet-name>
  <url-pattern>/CFIDE/main/ide.cfm</url-pattern>
</servlet-mapping>
-->
```

4. Save the file.
5. Restart ColdFusion MX 7.

   RDS is disabled on the ColdFusion MX 7 server.

For more information, see "Starting and stopping services" on page 47 for Windows, or "Managing the process" on page 49 for UNIX.

Disabling JSP functionality (server configuration only)

ColdFusion MX 7 Enterprise Edition provides support for JavaServer Pages (JSP) technology through the underlying J2EE application server on which it runs. Because JSP code runs outside of the realm of the ColdFusion MX 7 security framework and, therefore, is not subject to ColdFusion MX 7 sandbox security, you do not typically deploy JSPs in a shared, hosted environment where more than one customer shares a single server.

To disable JSP functionality:

1. Open *cf_root*/runtime/servers/default/SERVER-INF/default-web.xml in a text editor.
2. Find the `servlet-mapping` entry for JspLicenseServlet.
3. Comment out this entry, as the following example shows:

```
...
<!--
  <servlet id="macromedia_servlet_8789">
    <servlet-name>RDSServlet</servlet-name>
    <display-name>RDS Servlet</display-name>
    <servlet-class>coldfusion.bootstrap.BootstrapServlet</servlet-class>
    <init-param id="InitParam_103401311065856789">
      <param-name>servlet.class</param-name>
      <param-value>coldfusion.rds.RdsFrontEndServlet</param-value>
    </init-param>
  </servlet>
-->
...
```

4. Save and close the file.
5. Restart ColdFusion MX 7.

Changing the ColdFusion MX 7 user account in Windows

The ColdFusion services, by default, run under the highly privileged system accounts. For an extra level of security, Macromedia recommends that you create a Windows user under which you run the services and only give privileges needed to run the web application (for example, folder permissions for the web root.)

To change the ColdFusion MX 7 user account:

1. Open the Services Control Panel. (For example, select Start > Settings > Control Panel > Administrative Tools > Services.)
2. Right-click ColdFusion MX 7 Application Server, and select Properties.

   The ColdFusion MX 7 Application Server Properties (Local Computer) dialog box appears.
3. On the Log On tab, select This account, and enter the account information.
4. Click OK.
5. In the Services control panel, right-click ColdFusion MX 7 Application Server, and select Restart.

   Caution: Do not rename your Windows Administrator account. This causes problems with security policies and profiles.

Connecting to an external JDBC Type 4 data source

To use a JDBC driver that is not included with ColdFusion MX 7 (such as SQLAnywhere or PostgreSQL) you must configure it and add a data source for it.

To connect to an external JDBC data source:

1. Copy the database driver .jar file to one of the following directories:
   - (server configuration only) *cf_root*/lib
   - (multiserver or J2EE configuration) *cf_webapp_root*/WEB-INF/cfusion/lib
2. Restart ColdFusion MX 7.

   For more information, see "Managing ColdFusion MX 7" on page 46.

   Note: In Windows, ensure that you restart all of the ColdFusion MX 7 services; these are listed in "Overview of services" on page 47.
3. In the ColdFusion MX Administrator, add the other JDBC Type 4 data source, selecting Other from the Driver drop-down list box.

   For more information, see the chapter on data source management in *Configuring and Administering ColdFusion MX*.

You can now connect to an external JDBC Type 4 data source.

CHAPTER 6
Troubleshooting

This chapter contains solutions to common installation problems.

Contents

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Migration problems 66
J2EE configuration problems 67
Post-install problems 67
Uninstall problems. 68

Common installation problems

Spaces in the TEMP or TMP environment variables (Windows only)

Problem: A space in the path of the TMP or TEMP environment variables in Windows causes the installer to abort after extracting from the archive.

Solution: Change the TEMP or TMP environment variable so it does not include spaces.

Incomplete download

Problem: InstallAnywhere displays a message to choose another install location. No matter what location you choose, the install doesn't succeed.

Solution: Make sure that you downloaded the complete installation file; if not, download the file again.

Problem: When you try to download the ColdFusion MX 7 installation file on an Apple Macintosh, the download stops before it is complete, but the browser indicates that the download is complete.

Solution: If you are using Safari:

1. Start the download.
2. Open the download window (Option-Command-L).
3. When the download looks like it has stalled, click the Stop (X) button.
4. Click the Resume button.

   Safari continues the download from where it stalled.
5. Repeat Steps 3 and 4 as necessary

Web Server connectors not installed

Problem: If you install ColdFusion MX 7 on Apache 2.0.50, the configuration file is not updated automatically.

Solution: You must install the Web Server connectors manually, as described in "Configuring web servers" on page 49.

Server error

Problem: When trying to access any CFM page either from the server itself, or remotely, the following error appears:

```
Server Error
The server encountered an internal error and was unable to complete your
  request.
JRun Connector Protocol Error.
```

Solution: Run the Web Server Configuration Tool to unconfigure and reconfigure your web server connectors, as described in "Configuring web servers" on page 49.

Cannot start ColdFusion MX 7 Server

Problem: After installing Windows SP2 firewall, you cannot start ColdFusion services.

Solution: After installing Windows XP Service Pack 2, the Windows Firewall is enabled by default. This prevents ColdFusion MX 6.1 from functioning correctly. For more information see the Tech Note at www.macromedia.com/support/coldfusion/ts/documents/windowsspxp2.htm.

Cannot access Flash content locally

Problem: You cannot access any Flash content locally after installing ColdFusion MX 7 on IIS.

Solution: Look at the installation log to see if it contains the following error:

```
ANT Script Error:
Status: ERROR
Additional Notes: ERROR - Error adding connector to webserver: Internet
  Information Server (IIS)
CommandLine:
ErrorString: file:C:/Temp/0971.tmp/savedURL.1:31:
java.io.FileNotFoundException: C:\blackstone\ConnectorInstall0.txt.bat
(Access is denied)
```

If so, shut down IIS, and then run the Web Server Configuration Tool by selecting Start > Programs > Macromedia > Coldfusion MX 7 > Web Server Configuration Tool.

Errors displaying Flash forms

Problem: When you try to browse a ColdFusion page that contains a Flash form, the following errors appear:

```
2 Errors found.
Error /CFIDE/gettingstarted/community/webroot/index.cfm:-1
macromedia.css.LocatorParser
Error /CFIDE/gettingstarted/community/webroot/inde.mxml:381
The class 'mx.rpc.RemoteClassRelayResponder' could not be loaded.
```

Solution: If you are using an external web server, such as Apache or IIS, rerun the Web Server Configuration Tool; also, try using the built-in server, using port 8500. For more information, see "Configuring web servers" on page 49.

Cannot run Macromedia Flex

Problem: After installing ColdFusion MX 7, you cannot run Macromedia Flex on it.

Solution: You must install the J2EE configuration of ColdFusion MX 7 to run Macromedia Flex on ColdFusion MX 7.

Browsing a ColdFusion page displays a download window

Problem: In prior versions of ColdFusion, you used IIS to map the file extension .cfm to ICSF.dll. In ColdFusion MX 7, you have not mapped the .cfm file extension to any .dll file. As a result, ColdFusion pages do not execute running under Windows 2000 and IIS 5.0, but display a download window instead.

Solution: Run the Web Server Configuration Tool by selecting Start > Programs > Macromedia > Coldfusion MX 7 > Web Server Configuration Tool. For more information, see "Configuring web servers" on page 49.

ColdFusion MX Administrator displays as an encrypted page

Problem: After you install ColdFusion MX 7, you install Windows XP SP2. When you start ColdFusion MX Administrator, the Administrator displays as an encrypted page.

Solution: The Windows XP SP2 update may have undone the IIS mapping for ColdFusion MX 7. Run the batch scripts to uninstall, and then reinstall the IIS connectors. For more information, see "Configuring web servers" on page 49.

ColdFusion MX 7 doesn't start

Problem: ColdFusion MX 7 doesn't start when you have McAfee Privacy Service installed on system.

Solution: You must remove McAfee Privacy Service.

Data source problems

Unable to add a Microsoft Access data source

Problem: When you try to add a Microsoft Access data source, the following error appears:

```
Unable to update the ColdFusion MX 7 ODBC Server.
Timeout period expired without completion of
  C:\blackstone\db\slserver54\admin\swcla.exe
```

Solution: Install and start up the ODBC service, or use the Microsoft Access with Unicode driver.

Unable to use a data source created with UnixODBC

Problem: You cannot use a data source created with UnixODBC in ColdFusion MX 7.

Solution: You can use a driver such as the InterClient JDBC driver for InterBase available from Borland (www.borland.com/interbase/). Follow the documentation for setting up a data source using a third-party JDBC driver, "Connecting to an external JDBC Type 4 data source" on page 61, in conjunction with the InterClient documentation.

Migration problems

Data sources not recognized

Problem: When you migrate from a previous version of ColdFusion to ColdFusion MX 7, your application does not recognize data sources.

Solution: Redefine the data sources.

CFCs not recognized in Dreamweaver

Problem: When you migrate from a previous version of ColdFusion to ColdFusion MX 7, the CFCs do not appear in the Components panel of Dreamweaver.

Solution: Check the mappings and update them as necessary.

Installation fails

Problem: On UNIX and Linux systems, when you try to install ColdFusion MX 7 on systems where the `/tmp` partition is mounted `noexec`, the installation fails.

Solution: This is because the install attempts to use the `/tmp` directory for unpacking and running the installer runtime. To avoid this issue, set the `IATEMPDIR` environment variable to a directory on the system that has execute permissions before running the installer.

Installation fails

Problem: When you try to install ColdFusion MX 7, the installation fails and generate the error:

```
"java.lang.OutOfMemoryError Invocation of this Java Application has caused an
  InvocationTargetException. This application will now exit. (LAX)"
```

Solution: You must clean up the directory to which the installer is trying to extract the JRE, for example, `/home/tmp`.

J2EE configuration problems

Problem: When you install JRun 4, then install the ColdFusion MX 7 WAR, and attempt to open the ColdFusion MX Administrator, the following error appears:

```
500 The Security service is not available.
The security service is not available.
```

Solution: Look at the log files in cfusion/logs to see if a message indicates that you need the Java Crypto Extensions (JCE) on a 1.3 JVM. (The 1.4 JVM has this preconfigured.) Run JRun 4 Updater, making sure that you specify the correct directory.

Problem: There is inconsistent behavior when you try to launch JRun using `/opt/jrun4/bin/jrun`.

Solution: Launch JRun using the following:

/yourJAVA_HOME`/bin/java -jar /opt/jrun4/lib/jrun.jar -start cfusion`

ColdFusion MX Administrator fields not editable

Problem: When you run the pure Java installation kit (`coldfusion-70-other.jar`) on Mac OS X in GUI mode, the password and confirm password fields on the Administrator Password panel are not editable.

Solution: To be able to enter a password, click Next, and then click OK when the message that you cannot have a blank password appears. You can then enter a password.

Post-install problems

CLOB and data corruption

Problem: You are using the Japanese version of ColdFusion MX 7 and Oracle 8/9 with NLS_Characterset JA16SJJS, and encounter CLOB corruption and data corruption.

Solution: Set codepageoverride=MS932 in the JDBC URL.

Unsupported keysize or algorithm parameters

Problem: You are running ColdFusion MX 7 on WebSphere 5.1 on IBM JVM 1.4.1 and encounter an “Unsupported keysize or algorithm parameters” exception.

Solution: You must install unlimited jurisdiction policy files, as follows:

1. Download and install Unrestricted JCE Policy files for IBM SDK 1.4 from https://www6.software.ibm.com/dl/jcesdk/jcesdk-p.
2. Unzip the file.
3. Copy files unzipped from this link to the jre/lib/security directory.
4. Restart WebSphere.

Virtual mapping resource path of /* does not work

Problem: You add a virtual mapping resource path of /* which does not work.

Solution: Do not map any directories to wildcard resource paths that contain WEB-INF as a virtual mapping. In ColdFusion MX 6.1, the fact that this worked was a side-effect of the particular way the classloader was configured. For ColdFusion MX 7, the classloader is consistent across all editions; the ColdFusion classloader is no longer blended with the application server's classloader. This change was made to ensure that ColdFusion MX 7 works consistently in standalone server as well as deployed as an EAR/WAR to any certified J2EE application server.

Uninstall problems

COM disabled

Problem: You have a previous version of ColdFusion on the system. When you uninstall ColdFusion MX 7, COM is disabled.

Solution: You must re-register the typeviewer.dll file associated with the previous version of ColdFusion.

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