Installing and Using ColdFusion MX

Part Number ZCF61M100

Acknowledgments

Project Management: Randy Nielsen

Writing: Randy Nielsen

Editing: Linda Adler, Noreen Maher

First Edition: August 2003

Macromedia, Inc.
600 Townsend St.
San Francisco, CA 94103

CONTENTS

INTRODUCTION 5
About Macromedia ColdFusion MX documentation 5
Documentation set 5
Viewing online documentation 5

CHAPTER 1: Essential Information 7
About the ColdFusion MX 6.1 installation 8
ColdFusion MX 6.1 product editions 9
System requirements 10
System requirements for Windows 11
System requirements for UNIX 13
J2EE configuration requirements 15
Operating system and Java requirements 15
Installation considerations 16
Installation considerations for all platforms 16
Installation considerations for Windows 17
Installation considerations for UNIX 18

CHAPTER 2: Installing the Server Configuration 19
Installing ColdFusion MX 6.1 20
Installing ColdFusion MX 6.1 on Windows 22
Installing ColdFusion MX 6.1 on UNIX 23
ColdFusion MX server configuration directory structure 26
Using the built-in web server 27
Switching the port for the built-in web server 27
Switching from another web server 28
Uninstalling ColdFusion MX 6.1 29
Uninstalling ColdFusion MX 6.1 from Windows 29
Uninstalling ColdFusion MX 6.1 from UNIX 29

CHAPTER 3: Installing the J2EE Configuration 31
J2EE application servers 32
Choosing EAR or WAR deployment 32
Context root 33
Multiple instances 33
Platforms 34
Preparing to install using the J2EE configuration 34
Installing the J2EE configuration with JRun 36
Installing the J2EE configuration with JRun in Windows 36
Installing the J2EE configuration with JRun on UNIX 37
Installing an EAR file or WAR files 39
Installing an EAR file or WAR files in Windows 40
Installing an EAR file or WAR files on UNIX 41
Updating from ColdFusion MX for J2EE 42
ColdFusion MX J2EE deployment and configuration 43
Deployment 43
Configuration 45
ColdFusion MX J2EE configuration directory structure 46
Undeploying ColdFusion MX 47

CHAPTER 4: Configuring Your System 49
Overview of configuration tasks 50
Managing ColdFusion MX 51
Managing ColdFusion MX services in Windows 51
Managing the ColdFusion MX process on UNIX 53
Configuring web servers 53
Configuring web servers in Windows 54
Configuring web servers on UNIX 58
Installing Verity Locales 60
Enabling CORBA support 60
System requirements 60
Installing Visibroker for CORBA connections 61
Disabling Remote Development Services (RDS) 62
Disabling JSP functionality 63
Changing the ColdFusion MX user account in Windows 63
Enabling web services access for Flash Remoting 65
Connecting to an external JDBC Type 4 data source 65
Configuring RedHat Linux 7.3, 8.0, and 9 66

INDEX 67

INTRODUCTION

Installing and Using ColdFusion MX is intended for anyone who needs to install and configure ColdFusion MX 6.1.

About Macromedia ColdFusion MX documentation

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

Documentation set

The ColdFusion documentation set includes the following titles:

Book	Description
Installing and Using ColdFusion MX	Describes system installation and basic configuration for Windows, Solaris, Linux, and HP-UX.
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 K2 Server search engine, as well as creating, managing, and troubleshooting Verity collections.
Developing ColdFusion MX Applications	Describes how to develop your dynamic web applications, including retrieving and updating your data, using structures, and forms.
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.
CFML Reference	Provides descriptions, syntax, usage, and code examples for all ColdFusion tags, functions, and variables.
CFML Quick Reference	A brief guide that shows the syntax of ColdFusion tags, functions, and variables.

Viewing online documentation

All ColdFusion MX 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.

CHAPTER 1
Essential Information

This chapter describes Macromedia ColdFusion MX 6.1 product editions, system requirements, and other high-level considerations.

Contents

About the ColdFusion MX 6.1 installation 8

ColdFusion MX 6.1 product editions 9

System requirements 10

J2EE configuration requirements 15

Installation considerations 16

About the ColdFusion MX 6.1 installation

ColdFusion MX 6.1 provides a powerful and flexible installation and upgrade process. The ColdFusion MX 6.1 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 6.1 installer.
3. **(J2EE configuration only) Deploy** ColdFusion MX You deploy and configure ColdFusion MX on your J2EE application server.
4. **Run the Configuration Wizard** You finish the installation by specifying configuration and migration options.

The ColdFusion MX 6.1 installation process supports the following scenarios:

- **New installation** Install ColdFusion MX 6.1 on a computer with no previous ColdFusion installation.
- **Upgrade installation** You can upgrade from ColdFusion 4.5, ColdFusion 5, and ColdFusion MX. When upgrading from ColdFusion 4.5 or 5, the Configuration Wizard migrates previous settings to ColdFusion MX 6.1. When upgrading from ColdFusion MX, the ColdFusion MX 6.1 installer functions as an updater, which automatically preservers existing settings.

You can install ColdFusion MX 6.1 in either of the following configurations:

- **Server configuration** Lets you install one instance of ColdFusion with an embedded J2EE server. This version contains an embedded copy of JRun and is most similar to previous ColdFusion versions. For information on installing the server configuration, see Chapter 2, "Installing the Server Configuration," on page 19.
- **J2EE configuration (Enterprise and Developer Editions only)** Lets you deploy ColdFusion MX as a Java application running on a Java 2 Enterprise Edition (J2EE) application server. This configuration allows you to run multiple instances of ColdFusion MX on a single computer, either using the bundled license of JRun or using a third-party J2EE application server, such as IBM WebSphere, Sun ONE Application Server, or BEA WebLogic. For information on installing the J2EE configuration, see Chapter 3, "Installing the J2EE Configuration," on page 31.

The remainder of this chapter describes product editions and system requirements. Once 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 19 or Chapter 3, "Installing the J2EE Configuration," on page 31, as appropriate.

ColdFusion MX 6.1 product editions

The following table describes each edition of ColdFusion MX 6.1:

Edition	Description	Licensing
Developer	For Windows and Linux. • Supports requests from the local host and one remote IP address • Includes every feature in the Enterprise Edition, with the following exceptions: • A 10K Verity document search • No HTTP-based load-balancing and failover using Macromedia ClusterCATS If you install ColdFusion MX 6.1 in Trial mode, it reverts to Developer Edition after 30 days.	Free for a single computer used for development and evaluation purposes only. Not licensed for deployment.
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) • A built-in charting and graphing engine • 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	Licensed per server (up to 8 processors per server).

Edition	Description	Licensing
Enterprise	For Windows, Linux, Solaris, and HP-UX. Includes every feature in the Standard Edition, and also provides: • Database connectivity using Type 4 drivers for Oracle, DB2, Sybase, and Informix • 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 deploy options • J2EE support, in particular, Servlet, Java Server Pages (JSP) and Enterprise JavaBeans (EJB). • Support for deployment on third-party J2EE application servers. • J2EE configuration supports running multiple instances of ColdFusion MX on a single computer. • Backup mail servers and multithreaded e-mail delivery. • HTTP-based load-balancing and failover using Macromedia ClusterCATS (installed separately)	Licensed per CPU. Initial license is for two CPUs; licenses available in two-CPU increments.

System requirements

This section lists the system requirements for ColdFusion MX 6.1 for Windows and UNIX.

System requirements for Windows

This section lists the Windows system requirements for the Macromedia ColdFusion MX 6.1 Developer, Standard, and Enterprise Editions. An "x" in the following table means that the edition supports the requirement in that row.

Requirement	Developer Edition	Standard Edition	Enterprise Edition
Windows version			
Windows 98*	x	x	x
Windows Millennium Edition (ME)*	x	x	
Windows NT 4.0 (Workstation and Server†) SP6A	x	x	x
Windows NT 4 Server, Enterprise Edition SP6A	x	x	x
Windows 2000 (Professional SP3 or higher, Server SP3 or higher†, Advanced Server, and Datacenter Server)	x	x	x
Windows XP (Home and Professional)	x	x	x
Windows 2003 (Web, Standard, and Enterprise Editions)	x	x	x
Hardware			
Processor	Pentium	Pentium	Pentium
Colors	256	256	256
Minimum RAM (MB)	128	256	256
Recommended RAM (MB)	256	512	512
Free hard disk space (MB)	450 to install 250 to run	450 to install 250 to run	450 to install 250 to run
CD drive	x	x	x
Web servers			
ColdFusion MX built-in web server	x	x	x
Microsoft IIS 4.0, 5.x, 6	x	x	x
Netscape Enterprise Server 3.6x	x	x	x
iPlanet 4.x SunONE Web Server 6.x (formerly iPlanet 6.x	x	x	x
Apache web server 1.3.22–1.3.27, 2.0.43 or higher	x	x	x

Requirement	Developer Edition	Standard Edition	Enterprise Edition
Java Virtual Machine (JVM) Note: *ColdFusion MX 6.1 ships with the Sun 1.4.2 JVM.*			
Sun JDK/JRE 1.3.1 or later	x	x	x
IBM JVM 1.2.2–1.3 or later	x	x	x
Browsers for ColdFusion MX Administrator			
Internet Explorer 5.x, 6	x	x	x
Netscape Communicator 4, 6	x	x	x
Mozilla 1.0	x	x	x
Databases			
Oracle 8i R2-R3 (8.1.6 - 8.1.7) Oracle 9i R1-R2			x
Sybase Adaptive Server 11.5 and higher Sybase Adaptive Server Enterprise 12.0 and 12.5			x
DB2 UDB for Windows, UNIX, Linux, and Linux/s390 v7.1, v7.2, v8.1 DB2 UDB for OS/390 v6.1 DB2 UDB for z/OS and OS/390 v7.1, v7.2			x
Informix Dynamic Server 9.2x and 9.3x			x
Microsoft SQL Server 7.0, 2000 (including service packs 1, 2, and 3)	x	x	x
MySQL 3.23.47	x	x	x
Microsoft Access 97, 98, 2000, 2003 (MDAC 2.6 sp2 or higher)	x	x	x
SQLAnywhere£	x	x	x
PostgreSQL£	x	x	x

* ColdFusion MX only supports the built-in web server for this platform. Macromedia does not recommend using the built-in web server in a production environment.

† To install ColdFusion MX in Windows NT 4.0, or Windows 2000, Windows XP, or Windows 2003, you must already have the following components installed: MDAC 2.6 SP2 (www.microsoft.com/data/download.htm) and the Microsoft Visual C++ 6.0 runtime http://support.microsoft.com/default.aspx?scid=kb;en-us;259403).

£ ColdFusion MX does not include the driver for this database. For more information, see "Connecting to an external JDBC Type 4 data source" on page 65.

System requirements for UNIX

This section lists the UNIX system requirements for the Macromedia ColdFusion MX 6.1 Developer, Standard, and Enterprise Editions. An "x" in the following table means that the edition supports the requirement in that row.

Requirement	Developer Edition	Standard Edition	Enterprise Edition
UNIX distributions			
Red Hat Linux 7.2, 7.3, 8.0, 9 RedHat Linux AS 2.1 Install the latest patches (including the kernel and those listed in "Configuring Your System" on page 49) from ftp://ftp.redhat.com/pub If you use Apache, ensure that the version is 1.3.22-1.3.27 or 2.0.43 or later. Verity does not support RedHat Linux 7.3, 8.0, and 9.	x	x	x
SuSE Linux 7.2, 7.3, 8.x SuSE Linux Enterprise Server 8 Install the latest patches (including the kernel) from ftp://ftp.suse.com/pub Verity does not support SuSE Linux 7.3, 8.x, or SuSE Linux Enterprise Server 8.	x	x	x
TurboLinux 8 Server (Japanese only) Install the latest patches (including the kernel). Verity does not support TurboLinux 8 server.	x	x	x
Solaris 7, 8, 9 For Solaris 7, install the latest patch bundles from http://sunsolve.sun.com/pub-cgi/show.pl?target=patches/patch-access			x
HP-UX 11i Install the latest patch bundles from the Hewlett-Packard website at http://www.hp.com			x
Hardware			
Processor	Pentium for Linux, SPARC for Solaris, and PA-RISC version 1.1 or 2.0 for HP-UX		
Minimum RAM (MB)	256	256	256
Recommended RAM (MB)	512	512	512
Free hard disk space (MB)	450 to install 250 to run	450 to install 250 to run	450 to install 250 to run
CD drive	x	x	x
Web servers			
ColdFusion MX built-in web server	x	x	x

Requirement	Developer Edition	Standard Edition	Enterprise Edition
Apache web server 1.3.22–1.3.27, 2.0.43 or higher	x	x	x
Netscape Enterprise Server 3.6x	x	x	x
iPlanet 4.x SunONE Web Server 6.x (formerly iPlanet 6.x	x	x	x
Java Virtual Machine (JVM) Note: *ColdFusion MX 6.1 ships with the Sun 1.4.2 JVM.*			
Sun JDK/JRE 1.3.1 or later	x	x	x
IBM JVM 1.3 or later	x	x	x
Browsers for ColdFusion MX Administrator			
Internet Explorer 5.x, 6	x	x	x
Netscape Communicator 4, 6	x	x	x
Mozilla 1.0	x	x	x
Databases			
Oracle 8i R2-R3 (8.1.6 - 8.1.7) Oracle 9i R1-R2			x
Sybase Adaptive Server 11.5 and higher Sybase Adaptive Server Enterprise 12.0 and 12.5			x
DB2 UDB for Windows, UNIX, Linux, and Linux/s390 v7.1, v7.2, v8.1 DB2 UDB for OS/390 v6.1 DB2 UDB for z/OS and OS/390 v7.1, v7.2			x
Informix Dynamic Server 9.2x and 9.3x			x
MySQL 3.23.47	x	x	x
Microsoft SQL Server 7.x, 2000	x	x	x
SQLAnywhere*	x	x	x
PostgreSQL*	x	x	x

* ColdFusion MX does not include the driver for this database. For more information, see "Connecting to an external JDBC Type 4 data source" on page 65.

For all UNIX distributions, install the latest production-level patches, including the kernel, from the supplier's download sites: for Red Hat, ftp://ftp.redhat.com/pub; for SuSE, ftp://ftp.suse.com/pub; for Solaris, http://sunsolve.sun.com/pub-cgi/show.pl?target=patches/patch-access; for AIX, http://www.ibm.com/software/webservers/appserv/support.html.

J2EE configuration requirements

This section lists additional system requirements for Windows and UNIX when running in the J2EE configuration. This information was up-to-date at the time this document was written. For any updates, see www.macromedia.com/go/cfmxj2ee-cert.

Operating system and Java requirements

The following table lists the J2EE application servers supported by ColdFusion MX when running in the J2EE configuration. For the most up-to-date list of certified platforms, see the Macromedia support site, www.macromedia.com/support/coldfusion.

Edition	Operating systems
BEA WebLogic Server 7.0 BEA WebLogic Server 8.1	Windows NT 4.0 Server SP6A Windows 2000 Server SP2 Windows 2000 Advanced Server SP2 Red Hat Linux 7.2 Red Hat Advanced Server 2.1 SuSE Linux 7.2 Solaris 7 Solaris 8
IBM WebSphere 4	Windows NT 4.0 Workstation SP6A Windows NT 4.0 Server SP6A Windows 2000 Professional SP3 Windows 2000 Server SP3 Windows 2000 Advanced Server SP3 Red Hat Linux 7.2 SuSE Linux 7.2 Solaris 7 Solaris 8 AIX 4.3.3 AIX 5L v5.1
IBM WebSphere 5	Windows NT 4.0 Server SP6A Windows 2000 Server SP3 Windows 2000 Advanced Server SP3 Red Hat Linux 8.0 RedHat Advanced Server 2.1 SuSE Linux 7.3 Solaris 7 Solaris 8 AIX 4.3.3 AIX 5L v 5.1

Edition	Operating systems
Macromedia JRun 4	Windows NT 4.0 Server SP6A Windows 2000 Professional SP2 Windows 2000 Server SP2 Windows 2000 Advanced Server SP3 Windows XP Professional Windows 2003 Red Hat Linux 7.2, 7.3, 8.0, 9.0 RedHat Advanced Server 2.1 SuSE Linux 7.3 Turbo Linux 8 (JA only) Solaris 7, 8, 9
Sun ONE Application Server 7	Windows NT 4.0 Server SP6A Windows 2000 Server SP2 Windows 2000 Advanced Server SP2 Windows XP Red Hat Linux 7.2, 7.3 Solaris 8 Solaris 9

To use third-party JDBC type 4 drivers, see "Connecting to an external JDBC Type 4 data source" on page 65. The installation instructions also describe how to provide ODBC database support on Windows.

Installation considerations

This section lists considerations for installing or upgrading to ColdFusion MX 6.1.

Note: To use VisiBroker for CORBA connections in ColdFusion MX, see "Enabling CORBA support" on page 60. To install ClusterCATS, see *Using ClusterCATS*.

Installation considerations for all platforms

The following are installation considerations for all platforms:

- Macromedia supports upgrading to ColdFusion MX 6.1 from ColdFusion MX (the installation functions as an updater), ColdFusion 4.5, and ColdFusion 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 6.1, 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, you can upgrade to ColdFusion MX (which disables ColdFusion 4.5 or 5), or you can install ColdFusion MX separately, in co-exist mode. If you install ColdFusion MX separately, your ColdFusion 5 installation remains the same and ColdFusion MX installs with its built-in web server. This is because ColdFusion MX and ColdFusion 5 cannot use the same web server.

You can switch to use a different web server for ColdFusion MX after the installation, by following the instructions for your platform and the web server in "Configuring web servers" on page 53. However, if you configure the web server that uses ColdFusion 5 to use ColdFusion MX instead, ColdFusion 5 will be disabled.

- During installation of the server configuration, if you select the built-in web server, your web root directory is C:\CFusionMX\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 display, make sure that the document is located in the ColdFusion MX web root directory; for example, c:\CFusionMX\wwwroot\MyApp.cfm.) For more information, see "Using the built-in web server" on page 27.
- To interact with ColdFusion pages, components, and server-side ActionScript from a Macromedia Flash movie, use the Flash Remoting service in ColdFusion MX. 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 is required to build applications that connect to and interact with the Flash Remoting service in ColdFusion.

  For more information on configuring ColdFusion MX 6.1 to use Flash Remoting, see "Enabling web services access for Flash Remoting" on page 65. For more information on Flash Remoting, see *Developing ColdFusion MX Applications*.
- ColdFusion MX is built in Java and when installing the server configuration, the ColdFusion MX 6.1 installer automatically installs the JRE that is appropriate for your platform. When installing the J2EE configuration, ColdFusion MX 6.1 uses the same JRE as your J2EE application server.
- In an optimal production environment, each ColdFusion MX application is hosted on a dedicated server; database, mail, and other servers are not on the same computer.

Installation considerations for Windows

The following are installation considerations for Windows only:

- If you previously added a *cf_root*\bin or *cf_root*\verity_nti40\bin directory to your system path for ColdFusion 5, you must remove it before installing ColdFusion MX. (For instructions, see the Microsoft Windows online Help.) Otherwise, ColdFusion MX cannot locate the correct Verity DLL files.
- Do not configure the server running ColdFusion MX as a Primary Domain Controller (PDC) or Backup Domain Controller (BDC). Macromedia follows Microsoft's network model, in which the first level is the PDC/BDC. These systems only manage the network or domain and are not designed to run application servers. ColdFusion MX should reside on the second level of Windows NT and Windows 2000 stand-alone systems. Stand-alone servers can participate in a network or domain.
- Windows NT 4.0 Workstation, Windows 2000 Professional handle only 10 TCP/IP connections concurrently. Therefore, Macromedia does not recommend using these operating systems in a production environment; use Window NT 4.0 Server or Windows 2000 Server instead. In addition, Macromedia does not recommend using Windows ME, Windows 98, or Windows XP Home Edition, because each was intended for personal use and not as a server platform in a production environment.

Installation considerations for UNIX

The following are installation considerations for UNIX only:

- For troubleshooting purposes, the installer creates the following log file during an installation or upgrade on UNIX: *cf_root*/Macromedia_ColdFusion_MX_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-61-other.jar installer. This Java-only installer does not include features that require platform-specific binary files, such as Verity and C++ CFX support.

CHAPTER 2
Installing the Server Configuration

This chapter describes how to install and uninstall ColdFusion MX 6.1 in the server configuration. The ColdFusion MX 6.1 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:\CFusionMX in Windows, and /opt/coldfusionmx on UNIX.

Contents

Installing ColdFusion MX 6.1 20

ColdFusion MX server configuration directory structure 26

Using the built-in web server 27

Uninstalling ColdFusion MX 6.1 29

Installing ColdFusion MX 6.1

This section provides installation instructions for the ColdFusion MX 6.1 server configuration on Windows and UNIX. When installing the server configuration, you have the following options:

- **New installation** Select this option if you do not have ColdFusion MX on the computer or if you have ColdFusion 4.5 or 5 on the computer.
- **Update existing ColdFusion MX** Select this option if ColdFusion MX is already installed on the computer. You must update the existing version; ColdFusion MX and ColdFusion MX 6.1 cannot co-exist on the same computer.

Although the ColdFusion MX 6.1 installer provides an intuitive interface, it helps to plan your answers to the questions asked by the installer:

Question	Answer
All installation types	
Platform-specific installer name?	_____
New installation or ColdFusion MX update?	New install | ColdFusion MX update
Planned location of new ColdFusion MX directory?	_____
Will you configure an external web server (such as Apache or IIS)?	Yes | No
(Apache and iPlanet) Configuration directory?	_____
(Apache) Path to server binary?	_____
If using an external web server, location of your web root directory?	_____
ColdFusion MX Administrator password?	_____
Upgrade from ColdFusion 4.5 or ColdFusion 5	
Co-exist or upgrade?	Co-exist | Upgrade
Location of existing ColdFusion 4.5 or 5 directory	_____
If using the built-in web server, what port number will you use? The default is 8500. You don't typically change this.	_____
Update from ColdFusion MX	
Location of CFIDE directory? (The update install renames your existing CFIDE and cfdocs directories to CFIDE_old and cfdocs_old.)	_____

Question	Answer
UNIX	
Runtime user	Default is nobody (HP-UX must change this value). For security reasons, it is crucial that you do not use root for the runtime user.
Start at system startup (Solaris and RedHat Linux only)	Yes | No

After running the installer, you must complete the installation process by running the Configuration Wizard. You start the Configuration Wizard by opening the ColdFusion MX Administrator. You should also plan your answers to the questions asked by the Configuration Wizard.

Note: If you exit the browser before completing the Configuration Wizard, it continues from where you stopped the next time the ColdFusion MX Administrator is opened.

Question	Answer	Comment
Upgrade from ColdFusion MX		
When upgrading from ColdFusion MX, the Configuration Wizard updates the ODBC services, but does not ask any questions.		
All other installation types		
Enable RDS?	Yes | No	RDS allows the server to interact with remotely connected developers. It's best to disable RDS for production servers. Disabling RDS also disables the directory browsing applets in the ColdFusion MX Administrator.
If enabling RDS, RDS password?	_____	
Install example applications and getting started tutorial application?	Yes | No	ColdFusion MX ships with a variety of example applications. Installing the example applications also installs the supporting files used by the *Getting Started Building ColdFusion MX Applications* tutorial lessons. Do not use the example applications if you are installing into a production environment.

Question	Answer	Comment
Upgrade from ColdFusion 4.5 or ColdFusion 5		
Migrate existing settings?	Yes | No	
Migrate client variables in registry?	Yes | No	Unless you are storing client data that must be preserved, Macromedia recommends that you do not migrate these variables.

Installing ColdFusion MX 6.1 on Windows

This section explains how to install ColdFusion MX 6.1 in a Windows platform.

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

To install ColdFusion MX 6.1 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 Make sure that your operating system meets the system requirements described in "System requirements" on page 10.

3 Review the "Installation considerations for Windows" on page 17.

4 Close any applications that are currently running on your computer.

5 If you plan to configure an external web server, ensure that the web server is running.

6 (Upgrade install only) Shut down all ColdFusion services.

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 setup.exe on the CD and double-click it. If you are installing from a network or a downloaded file, locate the ColdFusion MX 6.1 installation executable file (coldfusion-61-win.exe and double-click it.

The installation wizard starts.

9 Follow the instructions in the wizard, and let it run to completion.

After the Pre-Installation Summary pane, the files are copied to your computer. After the installation is complete, you are prompted to open the ColdFusion MX Administrator. Because opening the ColdFusion MX Administrator for the first time automatically invokes the Configuration Wizard, it is best to open the Administrator at this time.

10 (Update from ColdFusion MX) Copy the files in the backup directory that you specified when running the installer back into your ColdFusion MX directory structure. Ensure that files from the backup directory tree overwrite any files with the same name in the ColdFusion MX directory structure.

11 Run the Configuration Wizard.

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

a Close the ColdFusion MX Administrator, if it is not already closed.

b Open *cf_root*/lib/adminconfig.xml (server configuration) or *cf_root*/WEB-INF/cfusion/lib/adminconfig.xml (J2EE configuration) in a text editor, change `runmigrationwizard` (migrate ColdFusion 5 settings) and `runmxmigrationwizard` (migrate the ColdFusion MX ODBC services to ColdFusion MX 6.1) to true, as necessary, and save the file.

c 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 settings.

12 Configure and manage your system, as described in Chapter 4, "Configuring Your System," on page 49.

13 To learn about ColdFusion MX 6.1, read the documentation, which is accessible through the Documentation link at the top of the ColdFusion MX Administrator.

Installing ColdFusion MX 6.1 on UNIX

This section explains how to install ColdFusion MX 6.1 on UNIX.

By default, ColdFusion MX 6.1 installs into the /opt/coldfusionmx directory. To install it into a different directory, you must create that directory before running the installation.

Note: The UNIX installer defaults to running ColdFusion MX 6.1 as user *nobody*. However, this is not allowed on HP-UX, so you must change the default value. On HP-UX, it is best to run as the same user as the web server runs under.

To install ColdFusion MX 6.1 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 Make sure that your operating system meets the system requirements described in "System requirements for UNIX" on page 13.

3 Review the "Installation considerations for UNIX" on page 18.

4 If you plan to configure an external web server, ensure that the web server is running.

5 (Upgrade install only) Shut down the ColdFusion server.

6 Log in as root.

7 (HP-UX only) Follow the instructions in "Mounting the CD drive on HP-UX" on page 25.

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 installation files for supported server configuration platforms are as follows:

- coldfusion-61-lin.bin
- coldfusion-61-sol.bin
- coldfusion-61-hpux.bin

9 Using the `cd` command, go to the directory with 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 (Update from ColdFusion MX) Copy the files in the backup directory that you specified when running the installer back into your ColdFusion MX directory structure. Ensure that files from the backup directory tree overwrite any files with the same name in the ColdFusion MX directory structure.

13 Start ColdFusion MX 6.1 with the following command:

```
/cf_root/bin/coldfusion start
```

If you specified the use of an external web server when running the installer, ColdFusion MX automatically runs the *cf_root*/bin/cfmx-connectors.sh script when starting for 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 6.1, use the following command:

```
/cf_root/bin/coldfusion stop
```

For more information on managing processes, see Chapter 4, "Managing the ColdFusion MX process on UNIX," on page 53.

14 Open the ColdFusion MX Administrator in a browser, using http://localhost/CFIDE/administrator/index.cfm if you configured an external web server and http://localhost:8500/CFIDE/administrator/index.cfm if you are using the built-in web server. Because opening the ColdFusion MX Administrator for the first time automatically invokes the Configuration Wizard, it is best to open the Administrator at this time.

Note: If you are accessing ColdFusion MX 6.1 from a remote computer, use the previous URL with the host name or IP address of the remote computer instead of *localhost*.

15 Run the Configuration Wizard.

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

a Close the ColdFusion MX Administrator, if it is not already closed.

b Open *cf_root*/lib/adminconfig.xml in a text editor , change `runmigrationwizard` (migrate ColdFusion 5 settings) and `runmxmigrationwizard` (migrate the ColdFusion MX ODBC services to ColdFusion MX 6.1) to true, as necessary, and save the file.

c 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 settings.

16 Configure and manage your system, as described in Chapter 4, "Configuring Your System," on page 49.

17 To learn about ColdFusion MX 6.1, read the documentation, which is accessible through the Documentation link at the top of the ColdFusion MX Administrator.

Mounting the CD drive on HP-UX

To accommodate long filenames, Macromedia writes ColdFusion MX 6.1 to the CD using the RockRidge format. This format is supported by HP-UX using the Portable File System (PFS) commands, not the standard HP-UX mount/umount commands. For more information on PFS commands, enter the following command: `man pfs_mount`.

To mount the CD drive on HP-UX using the HP PFS extensions:

1 Create a mount point for the CD drive; for example:

```
mkdir    /SD_CDROM
```

2 Create an entry in the PFS mount file, as follows:

a Create or edit the file /etc/pfs_fstab, adding an entry like the following:

```
/dev/dsk/c1t2d0  /SD_CDROM      pfs-rrip    xlat=unix  0
```

(In this example, /dev/dsk/c1t2d0 is the <device_file>, /SD_CDROM is the <mount_point>, pfs-rrip is the <fs_type>, and xlat=unix 0 is the <translation_method>.)

b In your entry, ensure that the path that you set in the device_file field is the device name of your CD drive, and that your mount_point is the name that you selected for the mount point in step 1.

3 Start the PFS processes, as follows:

```
nohup /usr/sbin/pfs_mountd &
nohup /usr/sbin/pfsd &
```

4 Mount the CD drive, as follows:

```
/usr/sbin/pfs_mount /SD_CDROM
```

The CD appears under /SD_CDROM.

5 When you finish using the CD, you can unmount it using the following command:

```
/usr/sbin/pfs_umount /SD_CDROM
```

ColdFusion MX server configuration directory structure

The following table describes the directories under the *cf_root* directory when using the server configuration:

Directory	Description
bin	Programs for starting, stopping, and viewing information for ColdFusion MX, and to run Crystal Reports (Windows only).
cache	Repository for temporary files from ColdFusion MX.
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 graphing and charting engine.
Custom Tags	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.
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).
jre	(UNIX only) Files for the Java Runtime Environment (JRE) that is bundled with ColdFusion MX for your UNIX distribution. In Windows, the files for the bundled JRE are in \runtime\jre.
lib	JAR, XML, property, and other files that are the foundation of ColdFusion MX, for functionality such as queries, charting, mail, security, Verity searches, and system probes.
logs	Repository for ColdFusion MX 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 (this file will be obsolete in future versions of ColdFusion MX).
runtime	Programs and supporting files for the ColdFusion MX runtime. In Windows, the files for the bundled JRE are in runtime\jre.
uninstall	Files to uninstall ColdFusion MX.

Directory	Description
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 6.1 has its own web server that you can use to develop ColdFusion MX applications, without depending on an external web server, such as Internet Information Server (IIS), Apache, or iPlanet. 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 6.1 installation, you must choose a web server. If you select the built-in server, then 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 display, make sure that the document is located in the built-in web server's web root directory; for example, C:\CFusionMX\wwwroot\YourApp1\index.cfm.)

Switching the port for the built-in web server

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

To change the default 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.

Switching from another web server

You can switch from an external web server to the built-in ColdFusion MX 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 *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.

7 Restart ColdFusion MX.

To switch to another web server, follow the instructions for the appropriate web server on your platform in Chapter 4, "Configuring web servers," on page 53.

Note: The installation wizard does not allows 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 6.1

The steps for uninstalling ColdFusion MX 6.1 depend on your operating system. This section contains instructions for Windows and UNIX.

Uninstalling ColdFusion MX 6.1 from Windows

Uninstalling ColdFusion MX 6.1 deletes all program files and related components from your computer.

To uninstall ColdFusion MX 6.1 from Windows:

1. Select **Start > Settings > Control Panel > Add/Remove Programs > Macromedia ColdFusion MX**.
2. Uninstall ColdFusion MX.
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 that you restart the computer.

ColdFusion MX 6.1 is deleted from your server.

Uninstalling ColdFusion MX 6.1 from UNIX

Uninstalling ColdFusion MX 6.1 deletes all program files and related components from your computer.

To uninstall ColdFusion MX 6.1 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 6.1 is deleted from your server.

CHAPTER 3
Installing the J2EE Configuration

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

Contents

J2EE application servers 32
Preparing to install using the J2EE configuration 34
Installing the J2EE configuration with JRun 36
Installing an EAR file or WAR files 39
ColdFusion MX J2EE deployment and configuration 43
Undeploying ColdFusion MX 47

J2EE application servers

One of the main advantages of ColdFusion MX 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 (the 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 in the J2EE configuration using either the bundled copy of Macromedia JRun 4 or a third-party J2EE application server. If you use the bundled version of JRun (recommended), the installation wizard automatically deploys and configures ColdFusion MX 6.1 on its own JRun server. If you choose to use a third-party 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** Contains the ColdFusion MX application. A web application (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 must run out of an expanded directory structure.

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

  Cfusion.war contains the ColdFusion MX web application. Rds.war is a web application that redirects requests from /CFIDE to /*context-root*/CFIDE. It forwards requests to the ColdFusion MX Administrator when ColdFusion MX uses a context root other than /.

- **Enterprise application** Contains the ColdFusion MX and RDS redirector web applications. An enterprise application (also called an EAR) uses a directory structure that contains a META-INF/application.xml deployment descriptor, which defines the web applications 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 must run out of 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 39.

Note: The instructions in this chapter apply to the ColdFusion MX J2EE configuration. The ColdFusion MX server configuration contains an embedded version of JRun, which uses ColdFusion-specific JRun configuration options and mappings. For information on installing ColdFusion MX in the server configuration, see Chapter 2, "Installing the Server Configuration," on page 19.

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 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 / (forward slash) for the context root. Setting the context root to / for the ColdFusion MX application is especially useful when serving CFM pages from the web server because it supports the functionality most similar to previous ColdFusion releases. In addition, the RDS web application is not required if you use a context root of /.

When you deploy the ColdFusion MX EAR file, it uses the context root 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 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 context root when deploying 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 using the J2EE configuration, you can define multiple server instances on a single computer, each running ColdFusion MX. Running multiple instances of ColdFusion MX 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 on multiple server instances, including detailed information for configuring multiple server instances when running on JRun 4, see *Configuring and Administering ColdFusion MX*.

Platforms

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

Preparing to install using the J2EE configuration

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

- **New installation – install JRun 4** Select this option to install a copy of Macromedia JRun 4 with ColdFusion MX deployed and configured as an enterprise application in a JRun server. For installation details, see "Installing the J2EE configuration with JRun" on page 36. This is the recommended J2EE configuration option if JRun or another J2EE application server is not already installed on the computer.
- **New installation – create EAR or WAR** Select 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 39.
- **Update existing ColdFusion MX – redeploy existing EAR or WAR** Select this option if ColdFusion MX is already deployed in a J2EE application server running on the computer. With this option, the installation wizard backs up ColdFusion MX settings, backs up CFM pages, and creates and EAR file or two WAR files. You undeploy the current ColdFusion MX application, deploy ColdFusion MX 6.1, and copy the saved settings from the backup directory. For installation details, see "Installing an EAR file or WAR files" on page 39.

Note: Migration from ColdFusion 4.5 or 5 to the ColdFusion MX J2EE configuration is not supported. In addition, the J2EE configuration is not supported by ClusterCATS.

Although the ColdFusion MX 6.1 installation wizard provides an intuitive interface, it helps to plan your answers to the questions:

Question	Answer
All install types	
Platform-specific installer name?	
New installation or ColdFusion MX update?	New install | ColdFusion MX update
Install JRun 4 or create EAR/WAR files?	JRun 4 | EAR/WAR files
ColdFusion MX Administrator password?	
Context root (JRun 4 and EAR file only: default is cfmx)	
ColdFusion MX Administrator password?	

Question	Answer
JRun4 install	
JRun Management Console (JMC) username and password	
Planned location of JRun directory?	
Will you configure an external web server (such as Apache or IIS)?	Yes | No
(Apache and iPlanet) Configuration directory?	
(Apache) Path to server binary?	
If using an external web server, location of your web root directory?	
EAR/WAR install	
EAR file or WAR files?	EAR file | WAR files
Directory for ColdFusion MX archive files (default is C:\cfmx or /opt/cfmx)?	
Update from ColdFusion MX for J2EE	
Location of ColdFusion MX web application root directory?	
Location of backup directory? (The update install copies CFM files, and other settings files from the web application root to the backup directory.)	

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

After running the installation wizard, you must complete the installation process by deploying ColdFusion MX (performed automatically if you also installed JRun 4) and running the Configuration Wizard. You start the Configuration Wizard by opening the ColdFusion MX Administrator. You should also plan your answers to the questions asked by the Configuration Wizard:

Question	Answer	Comment
RDS password?		
Install ODBC services? (Windows only)	Yes | No	The ODBC socket JDBC driver allows ColdFusion MX to access ODBC data sources.

Question	Answer	Comment
Install example applications and getting started tutorial application?	Yes | No	ColdFusion MX ships with a variety of example applications. Installing the example applications also installs the supporting files used by the *Getting Started Building ColdFusion MX Applications* tutorial lessons. Do not use the example applications if you are installing into a production environment.

Note: If you exit the browser before completing the Configuration Wizard, it continues from where you stopped the next time you open the ColdFusion MX Administrator.

Installing the J2EE configuration with JRun

When deploying ColdFusion MX as an enterprise application and installing JRun 4 as part of the installation procedure, the installation wizard performs the following actions:

- Installs JRun 4.
- Creates a JRun server named cfusion (in addition to the default, admin, and samples JRun servers, which are part of the default JRun installation).
- (Windows) Creates and starts Windows services for the admin, default, and cfusion JRun servers.
- Deploys the ColdFusion MX EAR in the JRun cfusion server.
- Configures *jrun_root*/bin/jvm.config, 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.

Installing the J2EE configuration with JRun in Windows

This section explains how to install Macromedia JRun 4 and the ColdFusion MX 6.1 J2EE configuration in a Windows platform.

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

To install the J2EE configuration with JRun 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. Make sure that your operating system meets the system requirements described in "System requirements" on page 10.
3. Review the "Installation considerations for Windows" on page 17.
4. Determine and record environment information, as described in "Preparing to install using the J2EE configuration" on page 34.

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 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 setup.exe on the CD and double-click it. If you are installing from a network or a downloaded file, locate the ColdFusion MX 6.1 installation executable file (coldfusion-61-win.exe) and double-click it.

The installation wizard starts.

9 Follow the instructions in the installation wizard. Be sure to start by selecting Install New Version of ColdFusion MX, then J2EE Configuration (ColdFusion MX with JRun 4).

Tip: The installation wizard disables the ColdFusion MX with JRun 4 option if JRun 4 is already installed on the computer.

After the Pre-Installation Summary pane, the files are copied to your computer.

10 Open the ColdFusion MX Administrator in a browser, using http://localhost/*context-root*/CFIDE/administrator/index.cfm (external web server) or http://localhost:8300/*context-root*/CFIDE/administrator/index.cfm (built-in JRun web server). Because opening the ColdFusion MX Administrator for the first time automatically invokes the Configuration Wizard, it is best to open the Administrator at this time.

Note: If you are accessing ColdFusion MX 6.1 from a remote computer, use the previous URL with the host name or IP address of the remote computer instead of *localhost*.

11 Answer the questions asked by the Configuration Wizard.

Completion of the Configuration Wizard and display of the ColdFusion MX Administrator indicates a successful install of ColdFusion MX.

12 Configure and manage your system, as described in Chapter 4, "Configuring Your System," on page 49.

Tip: If you do not plan on using the default JRun server, you can conserve system resources by opening the Services control panel and setting the Macromedia JRun default server service to Manual or Disabled.

13 Code and test ColdFusion MX 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, localhost, or 127.0.0.1.
- *contextroot* The context root for the ColdFusion MX 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://127.0.0.1:8300/cfmx/eisapp/index.cfm.

Installing the J2EE configuration with JRun on UNIX

This section explains how to install Macromedia JRun 4 and the ColdFusion MX 6.1 J2EE configuration on UNIX.

To install the J2EE configuration with JRun 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 in "System requirements for UNIX" on page 13.

3 Review the "Installation considerations for UNIX" on page 18.

4 Determine and record environment information, as described in "Preparing to install using the J2EE configuration" on page 34.

5 If you plan to configure an external web server, ensure that the web server is running.

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 installation files for supported server configuration platforms are as follows:

- coldfusion-61-lin.bin
- coldfusion-61-sol.bin
- coldfusion-61-other.jar

8 Using the `cd` command, go to the directory with the installation file.

9 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

10 Follow the instructions in the installation wizard. Make sure that you select **Install New Version of ColdFusion MX**, then **J2EE Configuration (ColdFusion MX with JRun 4)**.

Tip: The installation wizard disables the ColdFusion MX with JRun 4 option if JRun 4 is already installed on the computer.

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

After the Pre-Installation Summary pane, the files are copied to your computer.

11 Start the JRun cfusion server:

jrun_root`/bin/jrun start cfusion`

12 If you specified external web server settings when running 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. 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 running 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 opening the ColdFusion MX Administrator.

13 Open the ColdFusion MX Administrator in a browser, using http://localhost/*context-root*/CFIDE/administrator/index.cfm (external web server) or http://localhost:8300/*context-root*/CFIDE/administrator/index.cfm (built-in JRun web server). Because opening the ColdFusion MX Administrator for the first time automatically invokes the Configuration Wizard, it is best to open the Administrator at this time.

Note: If you are accessing ColdFusion MX 6.1 from a remote computer, use the previous URL with the host name or IP address of the remote computer instead of *localhost*.

14 Answer the questions asked by the Configuration Wizard.

Completion of the Configuration Wizard and display of the ColdFusion MX Administrator indicates a successful install of ColdFusion MX.

15 Configure and manage your system, as described in Chapter 4, "Configuring Your System," on page 49.

16 Code and test ColdFusion MX 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, localhost, or 127.0.0.1.
- *contextroot* The context root for the ColdFusion MX 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://127.0.0.1:8300/cfmx/eisapp/index.cfm.

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 J2EE configuration must run out of 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 discussions provide installation procedures for Windows and UNIX. For more about deployment and configuration, see "ColdFusion MX J2EE deployment and configuration" on page 43.

Installing an EAR file or WAR files in Windows

This section explains how to install the ColdFusion MX 6.1 J2EE configuration in a Windows platform. If you are updating an existing deployment of ColdFusion MX for J2EE, see "Updating from ColdFusion MX for J2EE" on page 42 before continuing.

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

To install ColdFusion MX 6.1 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 Make sure that your operating system meets the system requirements described in "System requirements" on page 10.

3 Review the "Installation considerations for Windows" on page 17.

4 Determine and record environment information, as described in "Preparing to install using the J2EE configuration" on page 34.

5 Close any applications that are currently running on your computer.

6 Insert the CD or download the setup file from the Macromedia website.

7 If the installation wizard does not start automatically when you insert the CD, locate setup.exe on the CD and double-click it. If you are installing from a network or a downloaded file, locate the ColdFusion MX 6.1 installation executable file (coldfusion-61-win.exe) and double-click it.

The installation wizard starts.

8 Follow the instructions in the wizard, and let it run to completion.

After the Pre-Installation Summary pane, the files are copied to your computer.

9 Deploy ColdFusion MX 6.1 and configure Java settings, as required by your application server. For more information, see "ColdFusion MX J2EE deployment and configuration" on page 43.

10 Open the ColdFusion MX Administrator in a browser (http://localhost:*portnumber*/*context-root*/CFIDE/administrator/index.cfm). Because opening the ColdFusion MX Administrator for the first time automatically invokes the Configuration Wizard, it is best to open the Administrator at this time.

11 Answer the questions asked by the Configuration Wizard.

Completion of the Configuration Wizard and display of the ColdFusion MX Administrator indicate a successful install of ColdFusion MX.

12 Configure and manage your system, as described in Chapter 4, "Configuring Your System," on page 49.

13 Code and test ColdFusion MX 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, localhost, or 127.0.0.1.
- *portnumber* The port number used by your application server's web server.

- *contextroot* The context root for the ColdFusion MX 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\default\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://127.0.0.1:8100/cfmx/eisapp/index.cfm.

Installing an EAR file or WAR files on UNIX

This section explains how to install the ColdFusion MX 6.1 J2EE configuration on UNIX. If you are updating an existing deployment of ColdFusion MX for J2EE, see "Updating from ColdFusion MX for J2EE" on page 42 before continuing.

By default, the ColdFusion MX 6.1 J2EE install places files into the /opt/cfmx directory. To install it into a different directory, you must create that directory before running the installation.

To install ColdFusion MX 6.1 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. Make sure that your operating system meets the system requirements described in "System requirements for UNIX" on page 13.
3. Review the "Installation considerations for UNIX" on page 18.
4. Determine and record environment information, as described in "Preparing to install using the J2EE configuration" on page 34.
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 installation files for supported server configuration platforms are as follows:
   - coldfusion-61-lin.bin
   - coldfusion-61-sol.bin
   - coldfusion-61-other.jar
7. Using the `cd` command, go to the directory with the installation file.
8. Start the installation with the following command:

   ./<*filename*>

   The installation program starts.

   To use coldfusion-61-other.jar 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 18):

   java_home`/bin/java -jar coldfusion-61-other.jar`

   Note: To run the UNIX installer in GUI mode, type ./<*filename*> -i gui
9. 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.

   After the Pre-Installation Summary, the files are copied to your computer.

10 Deploy ColdFusion MX 6.1 and configure Java settings, as required by your application server. For more information, see "ColdFusion MX J2EE deployment and configuration" on page 43.

11 Open the ColdFusion MX Administrator in a browser (http://*hostname*:*portnumber*/*context-root*/CFIDE/administrator/index.cfm). Because opening the ColdFusion MX Administrator for the first time automatically invokes the Configuration Wizard, it is best to open the Administrator at this time.

12 Answer the questions asked by the Configuration Wizard.

Completion of the Configuration Wizard and display of the ColdFusion MX Administrator indicate a successful install of ColdFusion MX.

Note: If you deployed the rds.war file, and a Configuration Wizard 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.

13 Configure and manage your system, as described in Chapter 4, "Configuring Your System," on page 49.

14 Code and test ColdFusion MX 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, localhost, or 127.0.0.1.
- *portnumber* The port number used by your application server's web server.
- *contextroot* The context root for the ColdFusion MX 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/default/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://127.0.0.1:8100/cfmx/eisapp/index.cfm.

Updating from ColdFusion MX for J2EE

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

- As appropriate for your application server, either stop the ColdFusion application and RDS application (if it is running), or stop the application server before starting the installation wizard.
- (Windows only) If you installed the SequelLink ODBC Agent, stop the ColdFusion MX ODBC services before starting the installation wizard.
- Before deploying ColdFusion MX, undeploy the existing ColdFusion MX application using your application-server specific undeploy functionality.
- After deploying, but before running the Configuration Wizard, copy the files in the backup directory that you specified when running the installation wizard back into your ColdFusion MX web application directory structure. Ensure that files from the backup directory tree overwrite any files with the same name in the ColdFusion MX web application directory structure. Depending on your environment, you might have to stop your application server first.

- If you don't run the Configuration Wizard, you can run it later by performing the following steps:
  a Close the ColdFusion MX Administrator.
  b Open *cf_root*\WEB-INF\cfusion\lib\adminconfig.xml in a text editor, change `runmxmigrationwizard` and `runsetupwizard` to true, as necessary, and save the file.
  c Restart the ColdFusion MX Administrator.

ColdFusion MX 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 shown in the following table:

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
SunONE Application Server 7	asadmin utility	Compressed

For basic deployment information, see your J2EE application server documentation. ColdFusion MX deployment instructions differ for each J2EE application server. For up-to-date information on deploying ColdFusion MX on a variety of J2EE application servers, see www.macromedia.com/go/cfmxj2ee-cert.

For more information, see "Deployment" on page 43 and "Configuration" on page 45.

Deployment

The instructions at www.macromedia.com/go/cfmxj2ee-cert provide detailed, application-server-specific ColdFusion MX 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 deploying ColdFusion MX 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 cfusion.ear also apply when deploying ColdFusion MX on BEA WebLogic.

Expanding and deploying an EAR file on JRun 4

When deploying ColdFusion MX as an enterprise application on an existing JRun server, you must expand the EAR and the WARs it contains before deployment.

Note: If you are already using the default-ear application and can't delete it, you must use a context root other than / for cfusion-ear. If you specified / when installing ColdFusion MX 6.1, 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 deploying cfusion-ear, you access ColdFusion pages by specifying http://*hostname:portnumber*/*contextroot*/*pagename*.cfm.

To deploy ColdFusion MX 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 39. 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 for J2EE, you must undeploy ColdFusion MX for J2EE before deploying ColdFusion MX 6.1, as described in "Updating from ColdFusion MX for J2EE" on page 42.

2 Expand the EAR file by performing the following steps:

a Open a console windows, 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 cfusion.ear with the `jar` command:

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

This expands cfusion.ear into cfusion.war and rds.war (rds.war is not included if you specified a context root of / when running 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 cfusion.war with the `jar` command:

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

This expands cfusion.war.

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 cfusion-ear, 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 cfusion-ear/META-INF/application.xml 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 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 deployed successfully.

5 Continue with the procedure from the Configuration Wizard step, as described in "Installing an EAR file or WAR files" on page 39.

Expanding and deploying WAR files on JRun 4

Although it is best to deploy ColdFusion MX as an enterprise application, you can also deploy ColdFusion MX as a web application. When deploying ColdFusion MX 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 on JRun 4 as a WAR file, see www.macromedia.com/go/cfmxj2ee-cert.

Configuration

After you deploy the ColdFusion MX application, you define JVM arguments. Each J2EE application server has a different method of 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 for J2EE application, you can run basic ColdFusion pages and start the ColdFusion MX Administrator. However, certain types of ColdFusion MX 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:

- **Verity** Add Verity binary directories to the JVM's native library path (`java.library.path`). The directories are as follows:

  ```
  WEB-INF/cfusion/lib
  WEB-INF/cfusion/lib/platform/bin (where platform is _nti40, _solaris, or
    _ilnx21)
  ```

- **Verity and C++ CFX support** Add WEB-INF/cfusion/lib to the JVM's classpath.
- **COM (Windows only)** Add jIntegra binary directories to the JVM's native library path (`java.library.path`). The directories are as follows:

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

- **Microsoft Access for Unicode database driver and cfreport (Windows only)** Add WEB-INF/cfusion/lib to the JVM's classpath.

Note: If your J2EE server runs on an operating system other than Windows, Solaris, or Linux, you can still run ColdFusion MX, but the functionality in the previous list 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 vbjorb.jar to WEB-INF/cfusion/lib and define the following argument:
  ```
  -Xbootclasspath/a:"cf_root/WEB-INF/cfusion/lib/vbjorb.jar"
  ```
- **Charting** Define the following argument (or ensure that WEB-INF/cfusion/lib is in the JVM's classpath):
  ```
  -Xbootclasspath/a:$cf_root/WEB-INF/cfusion/lib/webchartsJava2D.jar
  ```
  Note: For JDK 1.4.1 and later versions, specify com.gp.java2d.ExHeadlessGraphicsEnvironment instead of com.gp.java2d.ExGraphicsEnvironment.
- **Charting (UNIX only)** Define the following argument:
  ```
  -Djava.awt.graphicsenv=com.gp.java2d.ExGraphicsEnvironment"
  ```
  Note: 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_root/WEB-INF/cfusion/lib/coldfusion.policy"
    -Djava.security.auth.policy="cf_root/WEB-INF/cfusion/lib/neo_jaas.policy"
  ```
  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/cfmxj2ee-cert.

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

ColdFusion MX J2EE configuration directory structure

The following table describes the directories under the *cf_root* web application directory when using the J2EE configuration:

Directory	Description
cfdocs	Documentation for ColdFusion MX.
CFIDE	Files for the ColdFusion MX Administrator.
META-INF	Information about the application (might not contain substantial information).
WEB-INF/cfclasses	Compiled ColdFusion templates in your ColdFusion applications.
WEB-INF/cfc-skeletons	Support for ColdFusion components that are exported as web services.
WEB-INF/cftags	Templates for ColdFusion MX.

Directory	Description
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.
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 for mail.
WEB-INF/cfusion/registry	Used only in UNIX, by the `cfregistry` tag.
WEB-INF/cfusion/stubs	Contains compiled code for web services.
WEB-INF/cfusion/verity	Contains Verity collections.

Undeploying ColdFusion MX

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

To undeploy ColdFusion MX in the J2EE configuration:

1. Remove all ColdFusion MX 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_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 web application root.
4. Undeploy the ColdFusion MX web application, using application-server-specific undeploy functionality. In JRun 4, you undeploy by deleting the *jrun_root*/server/*servername*/cfusion-ear directory.

   Note: If you installed JRun 4 and an automatically deployed version of ColdFusion MX on Windows, uninstalling ColdFusion MX also uninstalls JRun.

5. If necessary, restart the application server.

CHAPTER 4
Configuring Your System

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

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

Contents

Overview of configuration tasks 50
Managing ColdFusion MX 51
Configuring web servers 53
Installing Verity Locales 60
Enabling CORBA support 60
Disabling Remote Development Services (RDS) 62
Disabling JSP functionality 63
Changing the ColdFusion MX user account in Windows 63
Enabling web services access for Flash Remoting 65
Connecting to an external JDBC Type 4 data source 65
Configuring RedHat Linux 7.3, 8.0, and 9 66

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" on page 51	You must stop and restart ColdFusion MX 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 6.1.
"Configuring web servers" on page 53	When moving to a production server or when the built-in web server no longer meets your needs.
"Enabling CORBA support" on page 60	You must do this only if you must make CORBA invocations from ColdFusion MX 6.1. You can do this after you install ColdFusion MX 6.1 and before you make a CORBA call from ColdFusion MX 6.1.
"Disabling Remote Development Services (RDS)" on page 62	For security reasons, disable RDS when you move an application to the production environment.
"Disabling JSP functionality" on page 63	When running ColdFusion MX Enterprise Edition in a hosted environment, you might want to disable JSP processing.
"Changing the ColdFusion MX user account in Windows" on page 63	You must do this only if you discover that the account under which ColdFusion MX 6.1 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 6.1 and before you deploy your application.
"Enabling web services access for Flash Remoting" on page 65	By default, Macromedia Flash Remoting cannot access ColdFusion MX 6.1 through web services. You can do this after you install ColdFusion MX 6.1 and before you begin using Macromedia Flash MX to access ColdFusion MX 6.1 through web services.
"Connecting to an external JDBC Type 4 data source" on page 65	You must do this only if you use a Type 4 database driver that is not included in ColdFusion MX 6.1. You can do this after you install ColdFusion MX 6.1 and before you set up the data source in the ColdFusion MX Administrator.
"Configuring RedHat Linux 7.3, 8.0, and 9" on page 66	Configure RedHat Linux 7.3, 8.0, or 9 to use the RedHat 6.2 libc compatability libraries.

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

Managing ColdFusion MX

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

- "Managing ColdFusion MX services in Windows" on page 51
- "Managing the ColdFusion MX process on UNIX" on page 53

Managing ColdFusion MX services in Windows

This section describes the ColdFusion MX services and explains how to manage them. It also describes how to run ColdFusion MX in Windows 98/ME, which does not use services in its architecture.

Overview of services

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

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

The JRun 4 with ColdFusion MX J2EE configuration installation creates the following services in Windows NT, Windows 2000, Windows XP, and Windows 2003:

Service	Purpose
Macromedia JRun Admin Server	Runs the JRun admin server, used by the JRun Management Console (JMC).
Macromedia JRun CFusion Server	Runs the JRun cfusion server. Contains ColdFusion MX deployed as an enterprise application.
Macromedia JRun Default Server	Runs the JRun default server. If you don't use this server, set this service to manual to conserve resources.

All Windows configurations install the following services for ODBC support:

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

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 for your changes to take effect. This applies to the server configuration only; in the J2EE configuration, 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 NT 4.0, select **Start > Settings > Control Panel > Services**.
   - 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 to start automatically or manually:

1 Open the Services dialog box:
   - In Windows NT 4.0, select **Start > Settings > Control Panel > Services**.
   - 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 Do one of the following:
   - In Windows NT, double-click the service to configure.

     The dialog box for the service opens.
   - In Windows 2000, Windows XP, or Windows 2003, right-click the service that you want to configure and select Properties.

     In the Properties dialog box, click the General tab.
3 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.
4 Click OK.

Running ColdFusion MX in Windows 98/ME

Since Windows 98 and Windows ME do not support services, ColdFusion MX runs as executable files. The following table describes these executable files:

Executable file	Purpose
ColdFusion Application Server	The main ColdFusion program. ColdFusion pages cannot be processed if this program is not running.
ColdFusion RDS	The program that provides security, directory and file browsing, and debugging services for Remote Development Services (RDS), which lets you access ColdFusion MX from Macromedia Dreamweaver MX, Macromedia HomeSite+, and Macromedia ColdFusion Studio.

When ColdFusion MX is running, two icons appear in the taskbar. To stop the ColdFusion Application Server executable, right-click the IDE service icon and select Stop. To run ColdFusion MX at startup, place a shortcut for the ColdFusion MX icon in the Startup program group. For instructions, see the Windows online Help.

Managing the ColdFusion MX process on UNIX

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

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

Overview of the ColdFusion MX process

The ColdFusion MX 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 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 process for your changes to take effect. This applies to the server configuration only; in the J2EE configuration, you use application-server-specific methods to update Java settings.

To manage the ColdFusion MX 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 described in the following table:

Task	Command to enter
Start ColdFusion MX	`coldfusion start`
Stop ColdFusion MX	`coldfusion stop`
Restart ColdFusion MX	`coldfusion restart`
View performance information for ColdFusion MX	`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, or to change your web server.

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 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 documented 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 Netscape Enterprise 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. 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 IIS for ColdFusion MX in Windows:

1. Start the Web Server Configuration Tool by selecting **Start > Programs > Macromedia ColdFusion MX > Web Server Configuration Tool** from the Start menu.
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 server configuration, the server name is always default. Clustering support is only available on the JRun J2EE 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 **Configure web server for ColdFusion MX applications**.

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

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 (JRun J2EE 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, .jsp, and .jws were added, as follows:

   a In IIS, right-click an IIS website and select Properties.

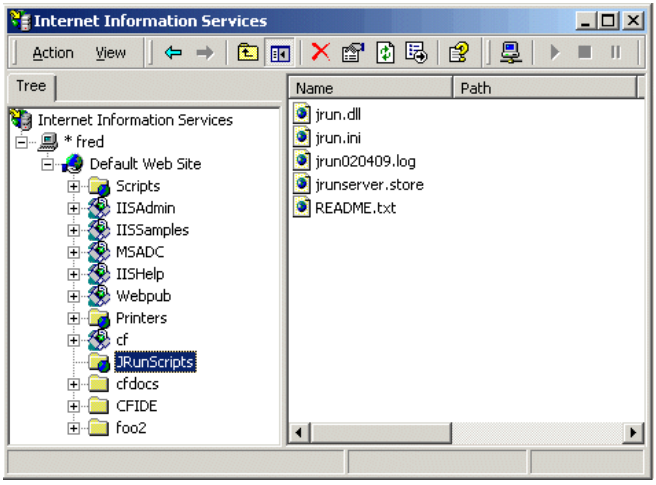
   b In the Properties dialog box, on the Home Directory tab, click Configuration.

   c In the Application Configuration dialog box, click the App Mappings tab.

   You should see mappings for .cfm, .cfml, .cfc, .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 Netscape Enterprise or iPlanet web server in Windows

This section describes how to configure Netscape Enterprise web server 3.6x or iPlanet web server (4.x or 6.x) for ColdFusion MX in Windows, and how to verify your configuration. You configure Netscape or iPlanet using the Web Server Configuration Tool in either GUI or command-line mode. This discussion describes how to use GUI mode. 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 Netscape or iPlanet for ColdFusion MX in Windows:

1 Start the Web Server Configuration Tool by selecting **Start > Programs > Macromedia ColdFusion MX > Web Server Configuration Tool** from the Start menu.

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 server configuration, this is always default. Clustering support is only available on the JRun J2EE configuration.

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

4 In the Web Server Properties area, select Netscape Enterprise Server/iPlanet and specify the path to the directory that contains the obj.conf file.

5 Select **Configure web server for ColdFusion MX applications**.

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

To verify your Netscape 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 (JRun J2EE configuration).

2 Open the Netscape 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 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. 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 Apache for ColdFusion MX in Windows:

1 Start the Web Server Configuration Tool by selecting **Start > Programs > Macromedia ColdFusion MX > Web Server Configuration Tool** from the Start menu.

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 server configuration, this is always default. Clustering support is only available on the JRun J2EE 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 **Configure web server for ColdFusion MX applications**.

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

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 JRun J2EE configuration, this file is located under *jrun_root*/lib/wsconfig.

2 Open the Apache configuration file, httpd.conf, in your Apache conf directory. On 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:/CFusionMX/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:/CFusionMX/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
</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 Netscape 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 on UNIX, and how to verify your configuration.

Note: When running the Web Server Configuration Tool on the JRun J2EE configuration, wsconfig.jar is located in *jrun_root*/lib. 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 on UNIX:

1 Enter the following command on a single line:

```
java_root/bin/java -jar cf_root/runtime/lib/wsconfig.jar -ws Apache
  -dir <apache config directory> -map .cfm,.cfc,.cfml -coldfusion -v
```

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

The following is a sample command:

```
/opt/coldfusionmx/jre/bin/java -jar
  /opt/coldfusionmx/runtime/lib/wsconfig.jar -ws Apache
  -dir /etc/httpd/conf -map .cfm,.cfc,.cfml,.jsp,.jws -coldfusion -v
```

Note: For unique configurations (such as the pre-configured 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 CFM pages from *cf_root*/wwwroot to your web server root 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)
or
cf_root/runtime/lib/wsconfig/*number*/mod_jrun20.so (Apache 2.x)

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/coldfusionmx/runtime/lib/wsconfig/1/mod_jrun.so"
<IfModule mod_jrun.c>
  JRunConfig Verbose false
  JRunConfig Apialloc false
  JRunConfig Ssl false
  JRunConfig Serverstore "/opt/coldfusionmx/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 Netscape or iPlanet web server on UNIX

This section describes how to configure Netscape Enterprise web server 3.6x or iPlanet web server (4.x or 6.x) for ColdFusion MX on UNIX, and how to verify your configuration.

Note: When running the Web Server Configuration Tool on the JRun J2EE configuration, wsconfig.jar is located in *jrun_root*/lib. 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 on UNIX:

1 Enter the following command on a single line:

```
java_root/bin/java -jar cf_root/runtime/lib/wsconfig.jar
  -ws <Iplanet or NES> -dir <Netscape/iPlanet config directory>
  -map .cfm,.cfc,.cfml,.jsp,.jws -coldfusion -v
```

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

The following is a sample command:

```
/opt/coldfusionmx/jre/bin/java
  -jar /opt/coldfusionmx/runtime/lib/wsconfig.jar
  -ws NES -dir /usr/netscape/server4/https-surf/config
  -map .cfm,.cfc,.cfml,.jsp,.jws -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.

To verify your Netscape or iPlanet configuration:

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

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 lets you do Verity searches for languages other than English. For European languages, ColdFusion uses LinguistX technology from Inxight, and for Asian languages, ColdFusion uses ICU (IBM Classes for Unicode) technology. 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 license key.
2. Download the appropriate Verity Locales package (ZIP file for Windows, TAR file for UNIX), and save it to your *cf_root* directory.

   Select from the following Verity Locales packages: Asian&European and English.
3. Extract the ZIP or TAR file in your *cf_root* directory.

   During extraction, the search files are automatically placed in the appropriate directories under the *cf_root*\lib or *cf_root*/lib directory.
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 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.

System requirements

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

- 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

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 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; you do not need the full Visibroker installation.

c Click Submit Changes.

3 Configure a Visibroker connector in ColdFusion MX, 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:\CFusionMX\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 for your changes to take effect.

For more information, see "Managing ColdFusion MX" on page 51.

You can now make CORBA invocations from ColdFusion MX. For more information about integrating CORBA objects into ColdFusion MX, see *Developing ColdFusion MX Applications*.

Disabling Remote Development Services (RDS)

If you use Dreamweaver MX or HomeSite+ to develop your applications, you can access a remote ColdFusion MX 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. Using RDS, IDE users can securely access remote files and data sources, build SQL queries from these data sources, and debug CFML code.

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 J2EE configuration, this file is under *cf_root*/WEB-INF.

2 Open the original web.xml file for editing.

3 Comment out the RDSServlet mapping, as shown in the following example:

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

4 Save the file.

5 Restart ColdFusion MX.

For more information, see "Starting and stopping services" on page 51 for Windows, or "Managing the process" on page 53 for UNIX.

RDS is disabled on the ColdFusion MX server.

Disabling JSP functionality

ColdFusion MX Enterprise Edition provides support for JavaServer Pages (JSP) technology via the underlying J2EE application server on which it runs. Because JSP code runs outside of the realm of the ColdFusion MX security framework and, therefore, is not subject to ColdFusion MX 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-mapping>
  <servlet-name>JspLicenseServlet</servlet-name>
  <url-pattern>*.jsp</url-pattern>
</servlet-mapping>
-->
...
```

4 Save and close the file.

5 Restart ColdFusion MX.

Changing the ColdFusion MX user account in Windows

If you discover that the user account under which ColdFusion MX runs has an inappropriate level of access—for example, to interact with remote data sources, other application pages, and COM objects—you should change the user account. This procedure applies only when running in the server configuration.

Note: You cannot follow this procedure in Windows 98 and Windows ME because they do not use services in their architecture. For other Windows versions, open the Services Control Panel and use the following procedure as a guideline.

To change the ColdFusion MX user account:

1 Select **Start > Run**.

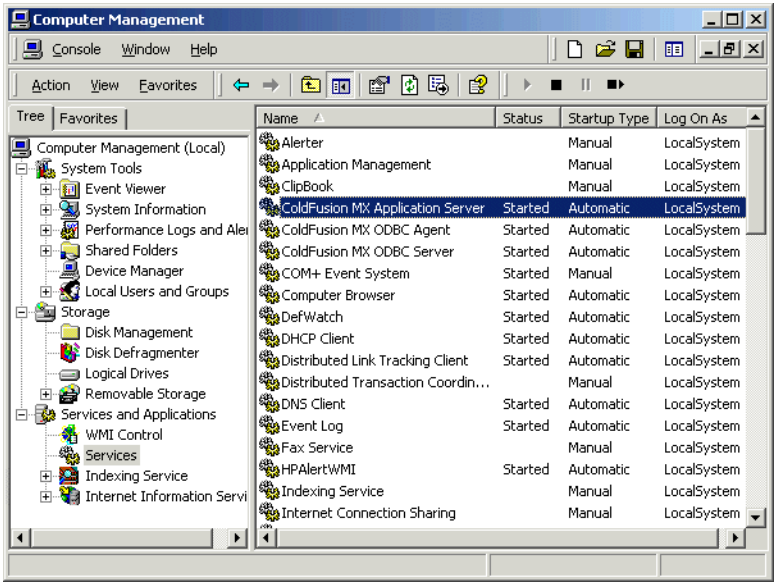
2 In the Run dialog box, enter **mmc** in the Open text box and click OK.

The Microsoft Management Console (MMC) appears.

3 Select **Console > Open**.

4 In the Open dialog box, browse to compmgmt.msc, the Computer Management console file (usually located in the system or system32 directory). Click Open.

The MMC for Computer Management appears:



5 On the Tree tab, under Services and Applications, click Services.

All of the services for your computer appear in the right pane.

6 Right-click ColdFusion MX Application Server and select Properties.

The ColdFusion MX Application Server Properties (Local Computer) dialog box appears.

7 On the Log On tab, select This account, and enter the account information.

8 Click OK.

9 In the MMC with the services displayed in the right pane, right-click ColdFusion MX Application Server and select Restart.

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

Enabling web services access for Flash Remoting

By default, Flash Remoting cannot access ColdFusion MX 6.1 through web services.

To enable Flash Remoting to access ColdFusion MX 6.1 through web services:

1 Open the *cf_root*/wwwroot/WEB-INF/web.xml file in a text editor. In the J2EE configuration, open *cf_root*/WEB-INF/web.xml.

2 Locate the servlet definition for FlashGateway and change the DISABLE_CFWS_ADAPTERS init-param from true to false, as follows:

```
<servlet>
  <servlet-name>FlashGateway</servlet-name>
...
    <init-param>
      <param-name>DISABLE_CFWS_ADAPTERS</param-name>
      <param-value>false</param-value>
      <description>When set to true, this setting disables the
        ColdFusion WebServices Adapters in the gateway.</description>
    </init-param>
</servlet>
```

3 Save the file.

Connecting to an external JDBC Type 4 data source

ColdFusion MX includes JDBC Type 4 database drivers from DataDirect and MySQL, JDBC Type 3 database drivers from DataDirect and SQL Link, and a JDBC Type 2 driver from Jadazoom. (JDBC is an Application Programming Interface (API) for Java programs to access data.)

To use a JDBC driver that is not included with ColdFusion MX (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 file to a directory other than the *cf_root* directory.

2 In the ColdFusion MX Administrator, open the Java and JVM Settings page.

3 In the Class Path text box, enter the directory that contains the driver file and click Submit Changes.

Note: In the J2EE configuration, update the classpath using your J2EE server-specific method.

4 Restart ColdFusion MX.

For more information, see "Managing ColdFusion MX" on page 51.

Note: In Windows, make sure that you restart all of the ColdFusion MX services; these are listed in "Overview of services" on page 51.

5 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.

Configuring RedHat Linux 7.3, 8.0, and 9

To use C++ binaries on RedHat Linux 7.3, 8.0, or 9, the Linux installation must have the corresponding RedHat libc compatability libraries to run ColdFusion MX 6.1, as follows:

- RedHat-9 for i386 compat-libstdc++-7.3-2.96.118.i386.rpm
- RedHat-8.0 for i386 compat-libstdc++-7.3-2.96.110.i386.rpm
- RedHat-7.3 for i386 compat-libstdc++-6.2-2.9.0.16.i386.rpm

Users must have 6.2-2.* or better for RedHat 7.3, or 7.3-2.* for RedHat 8.0 or 9.

This allows users of these Linux 7.3, 8.0, and 9 to use C++ CFXs. However, Verity does not support these platforms.

Note: Verity requires glibc of 2.2.4 or lower.

INDEX

Numerics

256 color minimum for installer 22, 35

A

Apache web server
  configuring in Windows 56
  configuring on UNIX 58
application isolation 33
application.xml file, web-uri element 44

B

backup directory for J2EE update install 35
built-in web server
  using 27
  using with external web server 28

C

C++ CFX support
  JVM arguments for J2EE 45
  RedHat Linux libraries 66
CD-ROM drive, mounting on HP-UX 25
CFIDE, renamed by update install 20
cfmx-connectors.sh script 24
cfreport, J2EE configuration 45
ClusterCATS, unsupported in J2EE configuration 34
clustering 33
coldfusion command (UNIX) 53
ColdFusion MX
  process on UNIX 53
  restarting on UNIX 53
  services in Windows 51
  starting in Windows 51
  starting on UNIX 53
  stopping in Windows 51
  stopping on UNIX 24, 53
COM support, JVM arguments for J2EE 45
configuration tasks, overview of 50
Configuration Wizard
  J2EE configuration - UNIX 39
  J2EE configuration - Windows 37
  server configuration - Unix 25
  server configuration - Windows 23
connecting to an external Type 4 data source 65
context path 33
context root 33
CORBA
  enabling 60
  JVM arguments for J2EE 46

D

data sources, connecting to external Type 4 65
database drivers 65
deployment
  app server differences 39
  app server mechanisms 43
  JRun 4 43
directory structure, expanded 39
disabling RDS 62

E

EAR, see enterprise application archive (EAR)
enterprise application archive (EAR)
  deploying on JRun 43
  deployment options 39
  directory structure 32
  expanded directory structure 32
expanded directory structure 39
external web server
  configuring 53
  using with built-in web server 28

F

failover 33
Flash Remoting, overview 17

G

glibc, Verity requirements 66

H

hosting, disabling JSPs 63
HP-UX, mounting CD-ROM drive on 25

I

IIS
  configuring 54
  IIS6 55
installing ColdFusion MX
  considerations for UNIX 18
  considerations for Windows 17
  general considerations 16
  in Windows 22, 36, 40
  on UNIX 23, 38, 41
internal web server 27
iPlanet web server
  configuring in Windows 55
  configuring on UNIX 59

J

J2EE configuration
  all-Java version 34
  ClusterCATS not supported 34
  deployment 43
  directory structure 46
  installation planning 34
  installing 34
  JRun Windows install 36, 38
  multiple instances 33
  undeploying 47
  UNIX install 41
  Windows install 40
java.args argument 45
java.lang.SecurityManager 46
java.library.path argument 45
JDBC 65
jIntegra binary directories 45
JRun
  EAR deployment 43
  installation overview 34
  installing 36
  installing in Windows 36
  installing on Unix 38
JRun Management Console (JMC)
  classpath 45
  JVM arguments 45
JVM arguments, J2EE configuration 45
jvm.config file, JVM arguments 45

L

Linux
  configuring web servers in 59
  RedHat compatibility libraries 66
load balancing 33

M

Microsoft Access for Unicode, J2EE configuration 45
multiple server instances 33

P

platform-specific binary files 34
port-based web server 27
process for ColdFusion MX on UNIX 53

R

RDS, disabling 62
rds.war
  not required for context-root of / 33
  overview 32
redeploy, updater in J2EE configuration 34
restarting ColdFusion MX on UNIX 53

S

sandbox security, enabling in J2EE 46
security manager 46
server instances, multiple 33
services for ColdFusion MX in Windows 51
setup.exe 23, 37, 40
starting
  ColdFusion MX in Windows 51
  ColdFusion MX on UNIX 53
stopping
  ColdFusion MX in Windows 51
  ColdFusion MX on UNIX 53
system requirements
  for UNIX 13
  for Windows 11
  overview 10

T

tools.jar, renaming 46
Type 4 database drivers 65

U

undeploying 47
uninstalling
  from UNIX 29
  from Windows 29
UNIX
  ColdFusion MX process 53
  configuring Apache web server on 58
  configuring Netscape or iPlanet web server on 59
  installation considerations 18
  managing process in 53
  process for ColdFusion MX 53
  restarting ColdFusion MX on 53
  starting ColdFusion MX on 53
  stopping ColdFusion MX on 53
user account, changing for ColdFusion MX 63

V

Verity
  glibc requirements 66
  JVM arguments for J2EE 45
  locales, installing 60
  unsupported on RedHat Linux 7.3, 8, and 9 66
  unsupported Unix platforms 13

W

WAR, see web application archive (WAR)
web application archive (WAR)
  deploying on JRun 4 45
  deployment options 39
  directory structure 32
Web Server Configuration Tool
  overview 53
  shell scripts 24
  starting with coldfusion command (UNIX) 53
web servers
  Apache in Windows 56
  Apache on UNIX 58
  configuring overview 53
  IIS 54
  internal 27
  Netscape or iPlanet in Windows 55
  Netscape or iPlanet on UNIX 59
  port-based 27
  using built-in 27
  using ColdFusion MX web server 27
Windows
  ColdFusion MX services 51
  installation considerations 17
  managing services in 51
  starting ColdFusion MX in 51
  stopping ColdFusion MX in 51
Windows ME/98, running ColdFusion MX in 52