



Adobe ColdFusion (2023 Release) Migration Guide



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Overview:

Various methods are available for migrating your ColdFusion 2021/2018/2016 server to the latest Adobe ColdFusion 2023 release. If you've decided to upgrade your server environment to Adobe ColdFusion 2023 release, this guide provides the recommended migration paths for a smooth and efficient transition.

We suggest you contact the <u>Adobe Support team</u> for further clarification regarding the migration process. The support team is always available to guide and assist throughout the process.

Migration Process:

Migrating your server from ColdFusion 2021/2018/2016 to Adobe ColdFusion 2023 release involves two critical steps:

- 1. Migrating the server environment, including the user-defined configurations:
 - > Install the latest version of ColdFusion.
 - Migrate the ColdFusion settings.
- 2. Migrating the deployed applications (user-defined applications) or the web repository.

To migrate the server environment, upgrade your production server to the latest version of ColdFusion. This step involves migrating your production server and other configurations, such as web services, data sources, and scheduled tasks. To migrate the server, you must run the latest ColdFusion installer or the Zip distribution.

After migrating the server, you can analyze, refactor, and redeploy your applications on the new ColdFusion server. You can use the built-in ColdFusion Code Analyzer tool to analyze your application code for refactoring.

Migrating the server:

Installation using the Zip distribution:

You can use the lightweight zip distribution to install Adobe ColdFusion 2023 release with minimal services. This section will discuss installing ColdFusion from the zip archive distribution and migrating the settings from previous releases.

- 1. Signed zip archives for Windows and non-Windows platforms can be obtained from the official Adobe ColdFusion download site (<u>Downloads</u>).
- 2. Extract the zip archive and unzip the ColdFusion2023.zip file.
- 3. Navigate to the "{ColdFusion-Home}/cfusion/bin" folder and run the "cfinstall.bat" file (or "./cfinstall.sh" in case of Linux, Solaris, or Mac OS).
- 4. Follow the on-screen instructions, enter a user-friendly name for the ColdFusion service, and complete the installation.

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- 5. Zip archive-based distributions are modularized and only contain the "administrator" and "adminapi" packages by default. Before initiating the migration process, install all the necessary packages using the package manager to avoid errors or issues. See ColdFusion Package Manager
- 6. Unlike GUI-based installations, zip archive-based installations will not prompt for the migration wizard automatically. Instead, users will need to initiate the migration process manually. Instructions for manually migrating can be found in the <u>manual migration process</u> documentation below. Alternatively, users can use the CFSetup configuration tool to import ColdFusion settings.

Using the ColdFusion package manager:

The Adobe ColdFusion 2023 release features modularized zip-based installers, including only the "administrator" and "adminapi" packages by default. These core components provide essential functionalities of ColdFusion, such as server administration, runtime libraries, and core APIs. This provides greater flexibility for experienced users who may only want to install the ColdFusion packages they need, resulting in a smaller disk footprint and improved runtime performance. ColdFusion includes a package manager allowing users to install, remove, and update packages through the admin console or the command line utility (cfpm) to manage these packages. For more information, see the ColdFusion package manager documentation.

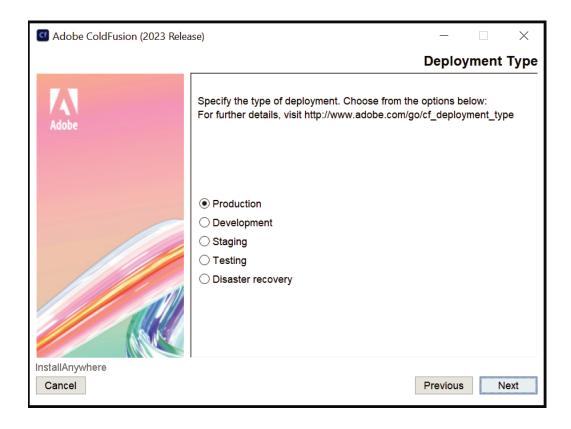
The GUI- mode installation:

This section describes migrating your server using the ColdFusion Migration wizard provided by the ColdFusion GUI installer.

To migrate your server, perform the following steps:

- 1. Stop the previous version of the ColdFusion server.
- Create a backup of all neo-*.xml files available under "{ColdFusion-Home}/{instance_home}/lib" from the previous installation.
- 3. Launch the Adobe ColdFusion 2023 release GUI installer and follow the installation steps.
- 4. Choose the appropriate option based on your deployment requirements. To learn more about deployment types, visit the deployment type page.



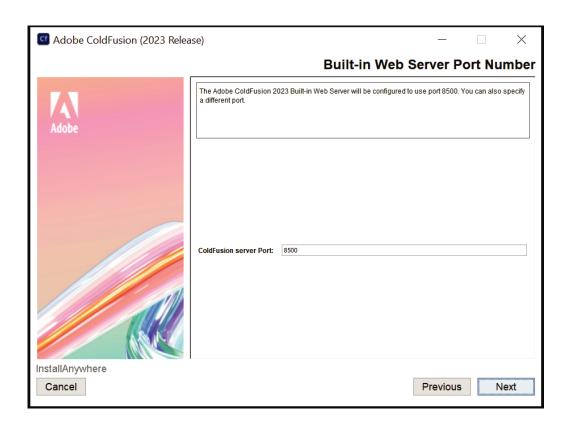


5. The Built-in webserver port number dialog appears.

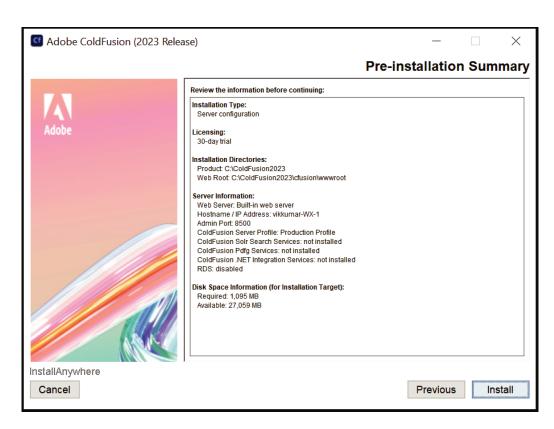
Note that if you have not shut down the previous instance of the ColdFusion server, the built-in web server may be configured to use a non-default port. This can result in two instances of the web server running on your machine, one from the old server and another from the new installation.

Click next to continue.



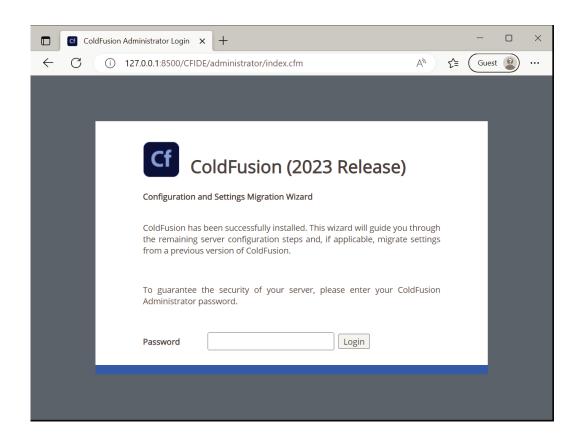


6. The last dialog displays the Pre-installation summary. Click install.

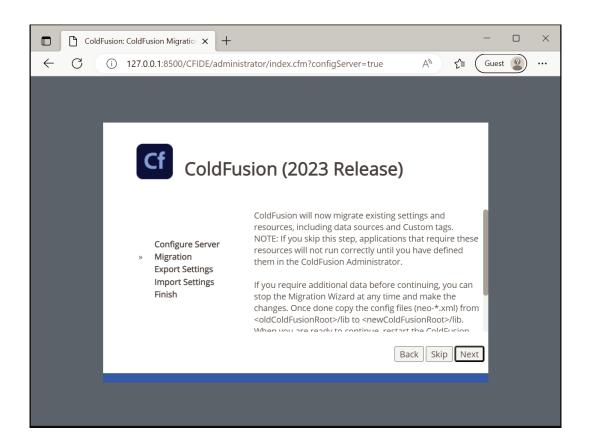


7. Now, the ColdFusion Migration wizard guides you in migrating your server configuration to Adobe ColdFusion 2023 release.

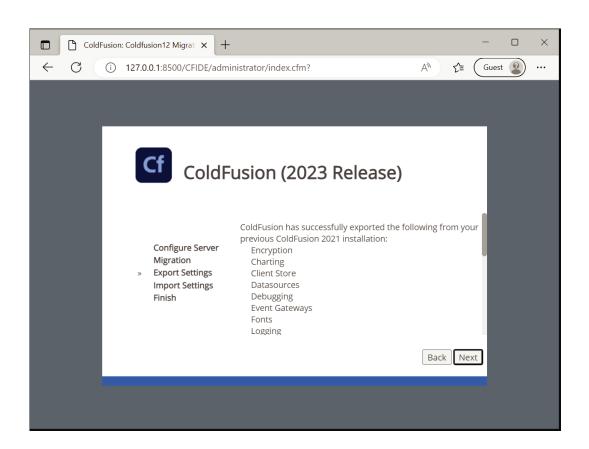


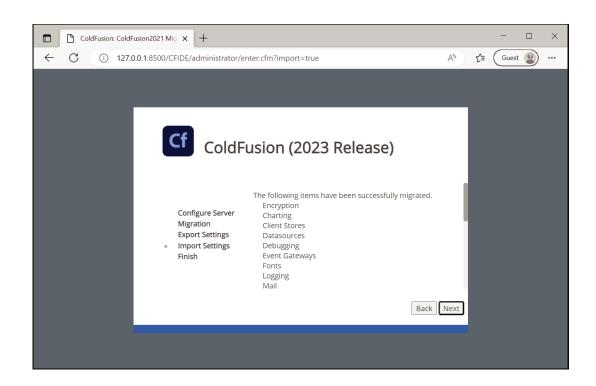


8. Follow the steps, confirm, and complete the migration.











What is Migrated?

The ColdFusion Migration Wizard automatically migrates the following server configurations:

- ✓ Encryption
- ✓ Charting
- ✓ Client Store
- ✓ Data sources
- ✓ Debugging
- ✓ Event Gateways
- ✓ Fonts
- ✓ Logging
- ✓ Mail
- ✓ Solr Settings
- ✓ Monitoring
- ✓ Probes
- ✓ Runtime
- ✓ Scheduled Tasks
- ✓ Security Sandboxes configuration
- ✓ Web Services
- ✓ Rest Services
- ✓ WebSocket
- ✓ NoSQL Data sources
- ✓ Cloud Credentials
- ✓ Cloud Configuration
- ✓ IDP Configuration
- ✓ SP Configuration

Note: Value for Max Pooled Statements is set to 100 for the following drivers- DB2, Informix, Oracle, Microsoft SQL Server, MySQL (DataDirect), and Sybase. Configurations like NoSQL Data sources, Cloud Credentials, Cloud Configurations, IDP, and SP configurations are only available in ColdFusion 2021 and ColdFusion 2023 releases.

What is not Migrated?

The following server configurations available in the Webroot of the previous installation are not migrated (automatically):

- ✓ Custom tags
- ✓ CFX tags
- ✓ Database
- ✓ Fonts



ColdFusion has updated the relevant configurations. However, data files such as databases, Custom Tags, CFX Tags, and fonts in the previous Webroot have not been transferred, and the configurations still reference their original locations. If such files exist, it is essential to relocate and update the corresponding configurations before deleting the previous installation directory. By default, the Solr home is assigned to the standard jetty locations. If a different jetty installation is being used, the SOLR setting page in the admin must be updated accordingly.

Installation directory structure:

Tomcat is embedded with a stand-alone Adobe ColdFusion (2023 release) installation. After installing ColdFusion in stand-alone mode, you can create multiple instances and clusters, provided you have an Enterprise or Developer License.

Note: This feature is not available in Standard Edition.

By default, ColdFusion2023 is the installation directory. The following table describes the directory structure.

Directory	Description
	It contains the following directories:
cfusion	 bin: Programs for starting, stopping, and viewing information for ColdFusion. It also contains the password reset script for server administrator and package manager. cfx: Sample C++ and Java CFX files with their supporting files. charting: Files for the ColdFusion graphing and charting engine. gql: Contains configuration and schema for graphql server. maven: Repository for the Project management tool. Custom Tags: Repository for your custom tags. db: The sample Apache Derby databases for all platforms. gateway: Files for ColdFusion event gateways. jetty: Solr configuration files and files related to remote instance start and stop. jintegra: This is for windows only. Jintegra

 stubs: webservices files. wwwroot: Default Webroot directory cache: repository for temp ColdFusion files.
runtime contains all Tomcat configuration files.
the ColdFusion runtime. Also, it contains the Tomcat libraries. The conf directory in
 Registry: This feature is available only on UNIX. This a Flat file to store registry settings. runtime: programs and supporting files for
META-INF: XML metadata for ColdFusion Administrator. Desirte: This feature is a wileble only on.
Mail: a repository for spooled mail and mail that cannot be delivered.
directory. Console outputs are logged in to start.log instead of cfserver.log.
 logs: Repository for ColdFusion log files. JRE- specific log files are in the runtime/logs
 lib: JAR, XML, property, and other files that are foundation for ColdFusion.
 jnbridge: Files for .NET Integration Services.

Migrating the ColdFusion settings using the CFSetup configuration tool:

The CFSetup configuration tool, introduced in ColdFusion 2021 release, automates configuring and managing various ColdFusion settings using a JSON file. This tool facilitates easy and efficient migration of ColdFusion settings between servers, whether between ColdFusion 2023/2021 servers or from a ColdFusion 2021 server to a ColdFusion 2023 server. Note that CFSetup is not supported in ColdFusion 2018 and earlier versions. All the settings in ColdFusion are grouped into categories. We can read, edit, import, or export these categories across different ColdFusion servers and instances via the command line utility. This makes it an ideal tool for automation, saving developers and system administrators time and effort. For more details on the CFSetup tool and its usage, visit the CFSetup configuration tool page.

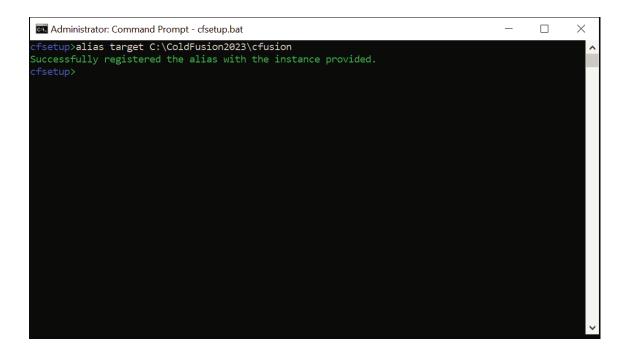
This section provides information on how to use the CFSetup configuration tool to migrate all the settings from ColdFusion 2021/ColdFusion 2023 to ColdFusion 2023 server.



- 1. Start the CFSetup configuration tool by executing cfsetup.bat or cfsetup.sh in the command line from the "{ColdFusion-Home}/config/cfsetup" location.
- 2. Next, create an alias for the source (Adobe ColdFusion 2021) and target (Adobe ColdFusion 2023) server.

```
Administrator: Command Prompt - cfsetup.bat

cfsetup>alias source C:\ColdFusion2021\cfusion
Successfully registered the alias with the instance provided.
cfsetup>
```



3. Select the desired categories or use the "all" switch with the "export" command to migrate all settings to the target (Adobe ColdFusion 2023) server.



```
Administrator: Command Prompt - cfsetup.bat
 fsetup>export all cf2021-settings.json source
Exporting SECURITY.
Exporting EVENTGATEWAYTYPE.
Exporting MAPPING.
Exporting COM.
Exporting NOSQL.
Exporting CHART.
Exporting MONITORING.
Exporting PDFSERVICE.
Exporting DOCUMENT.
Exporting EVENTGATEWAYSETTING.
Exporting LOGGING.
Exporting DATASOURCE.
Exporting SOLR.
Exporting REST.
Exporting EVENTGATEWAYINSTANCE.
Exporting WEBSOCKET.
Exporting METRIC.
Exporting CLOUDCREDENTIAL.
Exporting CUSTOMTAG.
Exporting CACHING.
Exporting MAIL.
Exporting CLOUDCONFIGURATION.
```

4. Copy the JSON file (remote instance) to the targeted Adobe ColdFusion 2023 server and execute the "import" command.

```
Administrator: Command Prompt - cfsetup.bat

cfsetup>import all cf2021-settings.json target

Provide passphrase(of minimum length 6) to protect sensitive information:*****
```

5. Restart the ColdFusion services on the target server (Adobe ColdFusion 2023 release) for the changes to take effect.



Migrating the ColdFusion settings (manual migration):

If you install the new ColdFusion 2023 server on the same machine as the previous version, you will be automatically prompted to migrate the settings during installation. Alternatively, follow these steps to manually migrate the ColdFusion settings from the earlier version to Adobe ColdFusion 2023 release.

- Stop the Adobe ColdFusion 2023 Application service.
- Take a backup of all neo-*.xml files available under "{ColdFusion-Home}/{instance_home}/lib".
- For ColdFusion 2021.x install, create a "cf2021settings" directory under "{ColdFusion2023-Home}/{instance_name}/lib" or {cfusion2023-ear-home}/cfusion-war/WEB-INF/cfusion/lib directory.
 - For ColdFusion 2018.x, create a "cf2018settings" directory.
 - For ColdFusion 2016.x, create a "cf2016settings" directory.
- Copy all the neo-*.xml files from "{ColdFusion-Home}/{instance_home}/lib" or {cfusion-ear-home}/cfusion- war/WEB-INF/cfusion/lib of the previous install to the "cf2021settings" or "cf2018settings" or "cf2016settings" directory.
- Copy the "seed.properties" file from "{ColdFusion-Home}/{instance_home}/lib" or {cfusion-ear-home}/cfusion- war/WEB-INF/cfusion/lib of the previous install to the "cf2021settings" or "cf2018settings" or "cf2016settings" directory.
- Open the "adminconfig.xml" file at: {ColdFusion-Home}/{instance_home}/lib or {cfusion2023- ear-home}/cfusion-war/WEB-INF/cfusion/lib and make necessary changes to the properties in the following example.
- Set "runmigrationwizard" value to "True" to force the ColdFusion administrator to run the migration wizard.
- Set "migratecf2021" or "migratecf2018" or "migratecf2016" to "True," based on the version of the previous installation. Keep all other settings in the "adminconfig.xml" the same.



- Please save the file and close it.
- Start Adobe ColdFusion 2023 Application service.
- To complete the migration, launch Adobe ColdFusion 2023 Administrator console and follow the migration steps.

Note: Another option to migrate the settings is to create a ". car" file for the previous ColdFusion install settings and deploy it to ColdFusion 2023 instance via the ColdFusion Administrator console.

Packaging:

The "Packaging and Deployment" section in the ColdFusion Administrator allows you to create and deploy CAR files. You can also create J2EE or WAR files that include an existing ColdFusion application and the ColdFusion runtime system.

ColdFusion archives page (CAR package):

The ColdFusion Archives page includes tools that let you archive and deploy ColdFusion applications, configuration settings, data source information, and other types of information to back up your files faster. You can create a CAR file if your new ColdFusion server installation is on a different server. This feature is only available in the Enterprise/Developer edition of ColdFusion, until version 10. ColdFusion 11 onwards, it is available in all editions and hence in Adobe ColdFusion 2023 release as well. The complete list of archival information includes the following:

- ✓ Archive information
- ✓ Assoc. Files/Dirs.
- ✓ Server Settings



- ✓ Charting
- ✓ CF Mappings
- ✓ Data Sources
- ✓ CF Collections
- ✓ Scheduled Tasks
- ✓ Event Gateways
- ✓ Java Applets
- ✓ CFX Tags
- ✓ Web Services
- ✓ Rest Services
- ✓ NoSQL Data sources
- ✓ Cloud Credentials
- ✓ Cloud Configuration
- ✓ IDP Configuration
- ✓ SP Configuration
- ✓ Archive Summary

After you archive the information, you can use the Administrator console to deploy your web applications to the same ColdFusion server or to a ColdFusion server running on a different computer. Also, you can use these features to deploy and receive any ColdFusion archive file electronically.

The Archive settings page lets you configure various archive system settings for all archive and deployment operations. For more information, see the Online help.

Build an archive:

To build an archive, perform the following steps:

- To access the ColdFusion Archives page, select Packaging and Deployment > ColdFusion Archives in the left navigation pane of the ColdFusion Administrator console.
- 2. On the ColdFusion Archive page, locate the name of the archive definition you want to archive, then click the **Build Archive** icon. The Archive Wizard appears.
- 3. Review the archive summary information in the archive Wizard and click Next to continue. The Choose Archive File Location page appears.
- 4. In the Choose Archive File Location page, perform the following steps:
 - a. In the File Name text box, specify the full path where you want to store the archive, followed by the name of the archive. The archive name must have a .car extension.



- b. For UNIX users only: If you must run this archive as a privileged user, select the Run This Archive As A Specific User option, and then enter any system account name and password in the Username and Password text fields. The username and password must watch this system's existing username and password. The archive process runs for that user. The build process fails if the username and password do not match this system account's existing username and password.
- Click Next to create the archive.

When the archive operation completes, one of the following archive messages appears:

- Build Successful: The archive was created and stored in the location specified in Step 4. Click OK and then click Close of the wizard page.
- Build Failed: The archive was not created. To determine the cause of the problem, review the information appearing on the page, and click Details to analyze the cause of the issue further.

J2EE archives:

ColdFusion lets you create an EAR or WAR file that contains an entire application. This archive file includes the ColdFusion web application, settings for ColdFusion (such as data source definitions), the CFM pages used by your applications (text or compiled Java), and, optionally, the ColdFusion Administrator. This feature lets you quickly create an archive file that a J2EE administrator can use to deploy your ColdFusion applications.

J2EE archives are different from ColdFusion Archives (CAR) files.

Context root:

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

For example, if you are running ColdFusion with a context root of cfmx, you can display the ColdFusion Administrator using the <u>URL</u>http://hostname/cfmx/CFIDE/administrator/index.cfm.

Most of the J2EE Archives page lets you create an enterprise applications archive (EAR) file or web application archive (WAR) file that contains the following items:

- The ColdFusion web application
- Server settings, such as data sources and custom tag paths.

The CFML pages of your applications are stored in the root directory of the ColdFusion web application. Use this page to create the WAR or EAR files required to create each cluster server.



configurations. However, you must run the J2EE configuration to deploy an EAR or WAR file.

Option	Description
Archive Name	Specifies a name for the J2EE archive definition. This is also the name given to an EAR to a WAR file
Application	Specifies the location of the CFM files to be included beneath the Webroot of the ColdFusion web application
Directory	Specifies the directory where ColdFusion places the EAR or WAR file
Distribution Directory	ColdFusion uses the name archivename.ear or archivename.war, depending on the archive type.
Archive Type	If you create an EAR file, you can optionally specify a context root for the ColdFusion web application. The default is an empty context root. If you create a WAR file, the context root is handled in an application-server-specific manner. In some application servers, the default context root is the name of the WAR file; in others, you specify the context root using the deploy tool or through a server-specific configuration file.
Serial Number	Specifies a valid serial number for ColdFusion Enterprise Edition.
Previous Serial Number (if Upgrade)	Specifies the serial number of the previous ColdFusion installation.
Include COM support	Specifies whether to include the modules that provide COM support. Omitting COM support reduces the size of the archive by about 12 MB
Disable Debugging	Specifies whether to disable debugging in the ColdFusion web application
Include CFML source	Specifies whether to use the original CFM files or to convert the page to Java bytecode
Include CF Administrator	Specifies whether to include the modules and directories for the ColdFusion Administrator (the CFIDE directory structure). Omitting the ColdFusion Administrator reduces the size of the archive by about 2MB
Configure Data Sources to be Included in Archive	Specifies the data sources to include in the J2EE archive. Use the right and left arrow buttons to select and remove data sources. Use the Double Arrow buttons to select and remove all data sources with one click.



Migrating the deployed applications:

After installing the ColdFusion server and migrating the ColdFusion settings, you can manually migrate your applications to the new server. This is the process of migrating your server repository or website files. If the migration involves setting up a new server/web server, the easiest way is to copy the web files from the older Webroot to the new Webroot under the new website. You can also use any third-party utility to migrate the files and the settings (if any, at the web server level) provided, and your web server supports the utility. You can skip this section if the website resides on the same server and the installation only involves ColdFusion server upgrade/ migration. You must remove the connector from the previous ColdFusion server and create the connector for the new ColdFusion server.

Note: This Migration Guide provides an overview of the migration process and as mentioned above, may vary from environment to environment. This is a solid recommendation to test your website on the testing/development environment before moving it on to production.

Using the Code Analyzer:

The Code Analyzer helps in migrating your applications to Adobe ColdFusion 2023 release from earlier versions of ColdFusion (i.e., ColdFusion 2021, ColdFusion 2018, ColdFusion 2016).

The code Analyzer reviews the CFML pages that you specify and informs you of any potential compatibility issues. It detects unsupported and deprecated CFML features and outlines the required implementation changes to ensure a smooth migration.

The Code Analyzer has the following purposes:

- They can validate the CFML syntax of your application. To do so, the analyzer runs the ColdFusion compiler on your pages but does not execute the compiled code. It reports errors that the compiler encounters.
- It provides information about the incompatibility (and its severity) and suggests a remedy wherever it is required.
- It can identify areas where ColdFusion behaves differently than previous versions. The analyzer identifies the following kinds of features:
 - No longer supported: Their use results in errors. For example, the closable attribute is not supported for the tag "cflayout" area in the border layout (cflayout withtype="border").
 - Deprecated: They are still available, but their use is not recommended or available in future releases. Deprecated features might also behave differently now than in previous releases. For example, in cfcache tag, the following attributes are deprecated: directory, cache directory, port, and protocol.

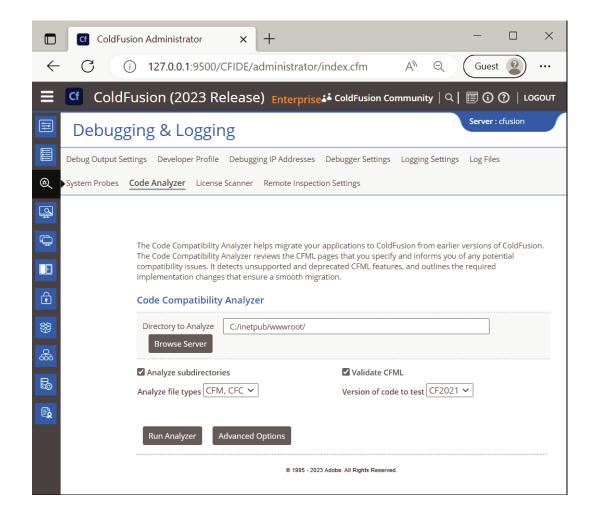


- Modified behavior: They behave differently than in previous versions. For example, if you use cfcache tag in ColdFusion 11 without an end tag (</cfcache>), then instead of caching only the current page (which was the behavior in the previous releases), the entire request is cached.
- New: If you use a throw as a user-defined function in a CFM, the analyzer informs that throw is a built-in ColdFusion function and suggests you rename it. If you use a throw as a user-defined function in a CFC, the analyzer informs that throw is a built-in function and suggests you prefix it with object scope.

Note: The Code Analyzer does not execute the pages that it checks. Therefore, it cannot detect invalid attribute combinations if the attribute values are provided dynamically at runtime.

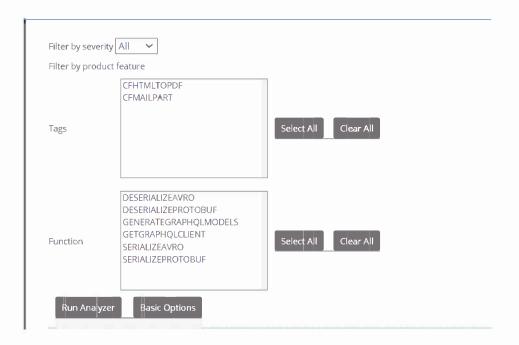
To run the Code Analyzer performs the following tasks:

- 1. Log in to the ColdFusion Administrator console.
- 2. Go to **Debugging & Logging > Code Analyzer** in the left navigation pane of the ColdFusion Administrator console.





- 3. Browse and select the ColdFusion2021/ColdFusion2018/ColdFusion 2016 installation directory containing the applications.
- 4. (Optional) Click **Analyze subdirectories** to analyze CFML pages in the subdirectories.
- 5. (Optional) Click Advance Settings and manually select the tags and functions to analyze.



- 6. Click Run Analyzer
- 7. Review the results and fix your CFML code accordingly.

Known migration Issues:

This section overviews the known migration issues identified and offers workarounds to address them. Additionally, future updates will include fixes and enhancements to improve the migration experience and ensure a smoother transition to the new server.

1. If the driver in the previous version was defined as "Other," CFsetup-based migration will fail.

Workaround: Exclude the "DATASOURCE" category while exporting to a JSON file and copy the "neo-datasource.xml" and "seed.properties" file manually to "{ColdFusion-Home}/{instance_home}/lib" location of Adobe ColdFusion 2023 release and restart the services.



2. Solr collection was not migrated in manual and CFsetup-based migration.

Workaround: To migrate Solr collections to a new installation, you can utilize the CAR package. Remember that reindexing the Collections may be necessary when migrating from an older Solr version to a newer one.

3. A few settings for the S3 bucket, like API call timeout & others, are missing after migration under Cloud configuration using CFsetup-based migration.

Workaround: Add the missing settings manually or use the CAR package to migrate the settings.

4. NoSQL Data source not migrated via auto migration wizard(manual migration).

Workaround: Copy the "neo-nosql-datasource.xml" file from the previous install to "{ColdFusion- Home}/ {instance_home}/lib" location of Adobe ColdFusion 2023 release and restart the services.

5. Error migrating the Schedule Tasks from the ColdFusion 2018 to Adobe ColdFusion 2023 release via a CAR package.

Workaround: Copy the "neo-cron.xml file from the ColdFusion 2018 to "{ColdFusion-

Home}/{instance_home}/lib" location of Adobe ColdFusion 2023 release and restart the services.

6. A few Schedule Tasks-related attributes, like the requesttimeout, and Eventhandler, are missing in CAR-based migration.

Workaround: Copy the "neo-cron.xml file from the ColdFusion 2018 to "{ColdFusion- Home}/ {instance_home}/lib" location of Adobe ColdFusion 2023 release and restart the services.

7. Missing the Redis configuration under caching after migration via auto migration wizard (manual migration).

Workaround: Add the Redis configuration manually or use the CAR package to migrate the settings.

8. The ColdFusion migration wizard may not appear post-installation on MacOS and Ubuntu platforms.

Workaround: Follow the instructions in the migration guide to perform migration in such cases manually. Error reported for certain settings (SAML, Cloud configuration, and Cloud credentials) that are not configured in the migration source is inconsequential and can be ignored.



Help and tutorials!

- 1. <u>A video by ColdFusion Product Team on ColdFusionarchives</u>
- 2 <u>ColdFusion Product Help Page</u>
- 3. Adobe ColdFusion (2023 release) Documentation
- 4. Adobe ColdFusion (2023 release) Support Matrix
- 5. Adobe ColdFusion (2023 release) Installation Guide

