Adobe ColdFusion (2021 Release) Migration Guide

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Contents

Overview:

There are many ways to migrate your ColdFusion 2018/2016/11/10 server to Adobe ColdFusion (2021 release). Once you have decided to upgrade your ColdFusion 2018/2016/11/10 server environment to Adobe ColdFusion (2021 release), follow the migration paths specified in this guide for a quick and seamless migration. Please contact the Adobe Support team, if you need clarifications on any of these steps. The support team provides guidance and assistance through the migration process.

Migration Process:

The two critical paths involved in migrating your server from ColdFusion 2018/2016/11/10 to Adobe ColdFusion (2021 release) are as follows:

1. Migrating the server environment (Server along with the user-defined configurations)
    - Installing latest version of ColdFusion.
    - Migrating the ColdFusion settings.
2. Migrating the deployed applications (user-defined applications) or the web repository.

Migrating the server environment involves upgrading your production server to the latest version of ColdFusion. In this step, your production server gets migrated along with other server configurations like web services, data sources, scheduled tasks. For migrating the server, you must run the latest ColdFusion installer.

After you have migrated 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 (installing latest version of ColdFusion using Zip distribution):

Adobe ColdFusion (2021 release) comes with an all new, lightweight zip distribution, via which you can install ColdFusion with bare minimum services. In this section, we will see how to quickly install ColdFusion from the zip archive distribution and migrate the settings from previous releases.

1. Signed zip archives can be obtained for Windows and non-Windows platform from the official Adobe ColdFusion download site(Downloads).
2. Extract the zip archive and unzip ColdFusion2021.zip file.
3. Navigate to \ColdFusion2021\ColdFusion\cfusion\bin folder and run “cfinstall.bat” file (./cfinstall.sh in case of Linux or Solaris or Mac OS).

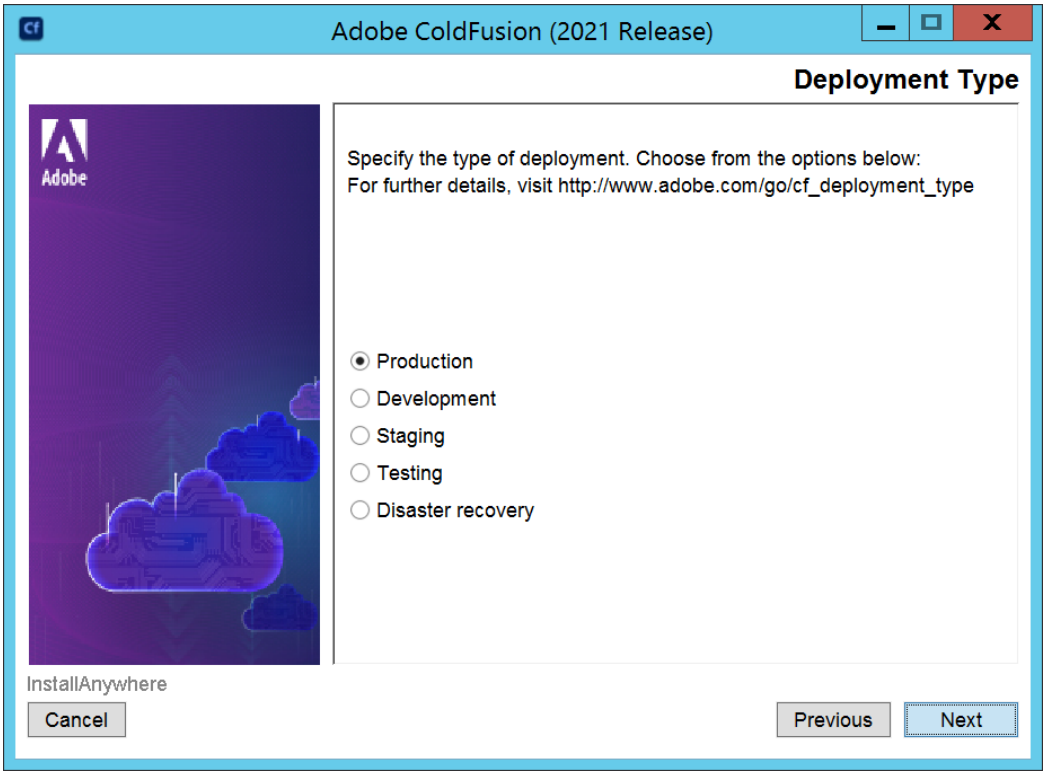
4. Follow the on-screen instructions, enter a user-friendly name for the ColdFusion service and complete the installation.
5. Zip archive-based distributions are modularized and only contains the core by default. You must install all the required packages as a prerequisite before you begin to plan the migration process. See ColdFusion package manager.
6. Unlike in GUI based installation, zip archive-based installation will not prompt for the migration wizard automatically and users are required to initiate the migration manually. See manual migration process for instructions.

GUI- mode installation:

This section describes the process to migrate your server using the ColdFusion Migration wizard provided by the ColdFusion GUI installer.

To migrate your server, perform the following steps:

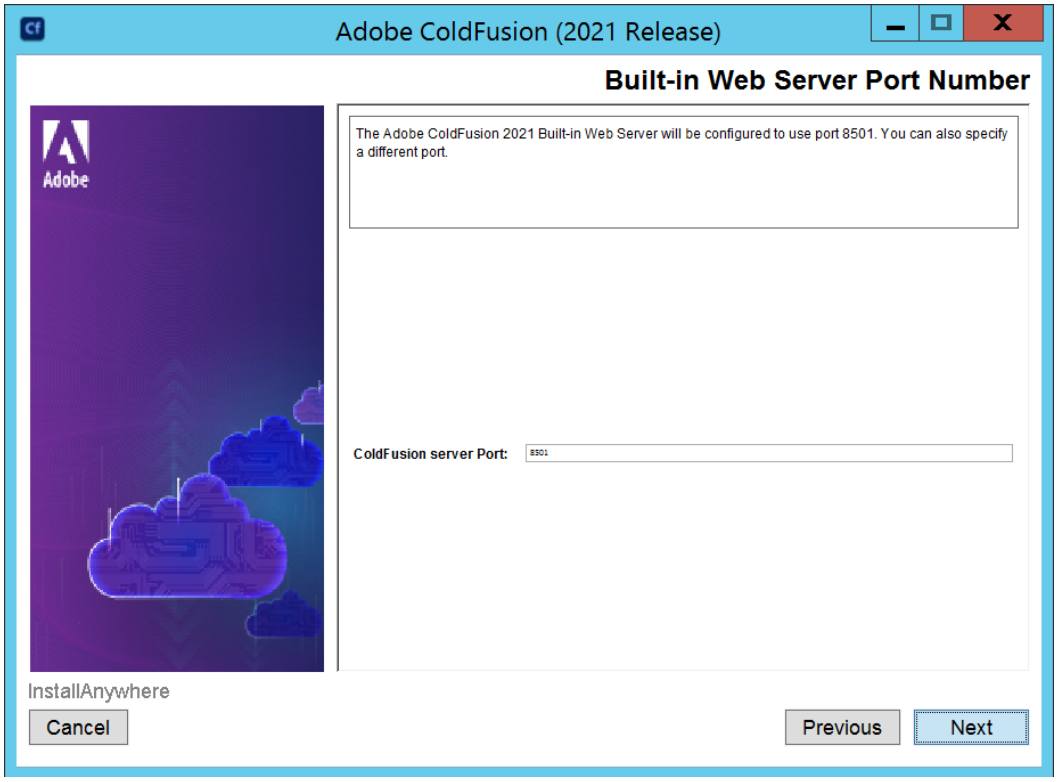
1. Stop the previous version of ColdFusion server.
2. Take a backup of all neo-*.xml files available under <CF_INSTALLDIR_>/lib from the previous installation. Run the Adobe ColdFusion (2021 release) GUI installer and follow the installation steps.
3. While installing ColdFusion (2021 release), you will see a new screen to select the deployment type. Based on your deployment requirement, select one of the options. To learn more about deployment types, visit deployment type.



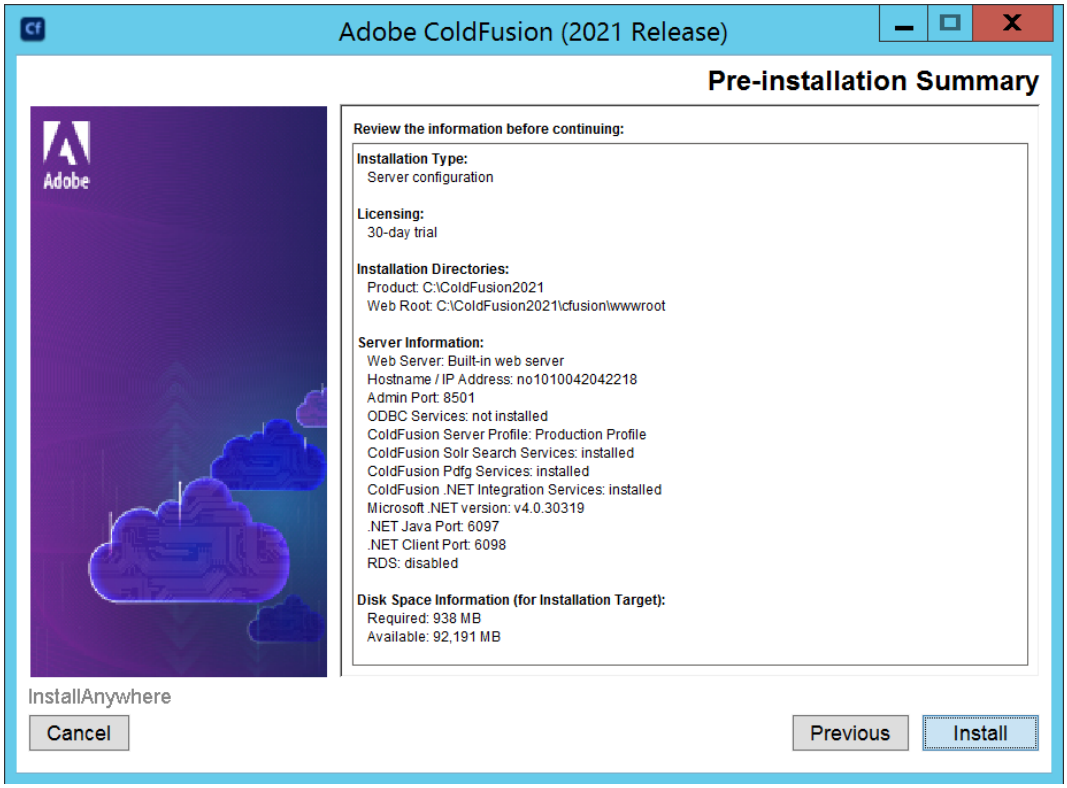
4. The Built-in webserver port number dialog appears.

Important: If you have not shut down the previous instance of ColdFusion server, the built-in webserver is configured to use a non-default port. This action results in two instances of web server running on your machine, one from old server and another from Adobe ColdFusion (2021 release)

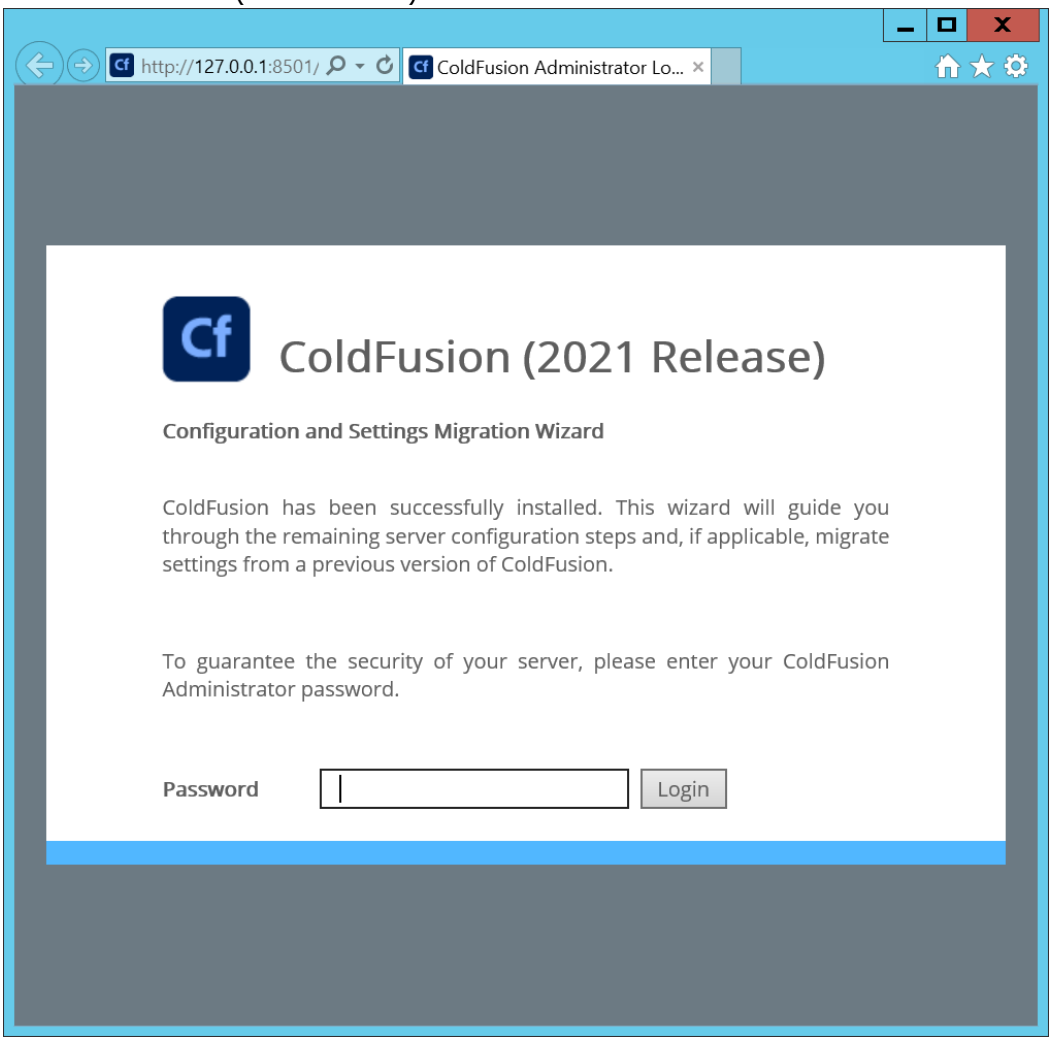
Click next to continue.



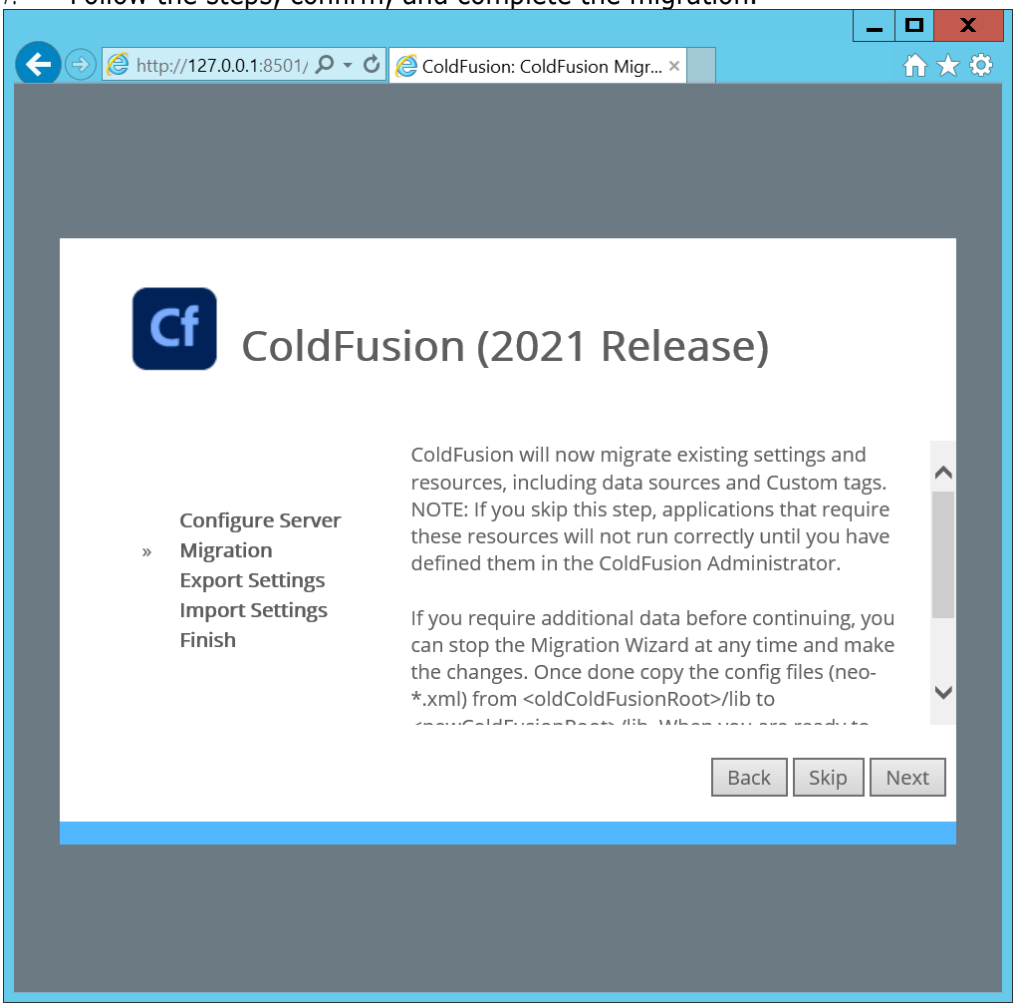
5. The last dialog displays the Pre-installation summary. Click install.

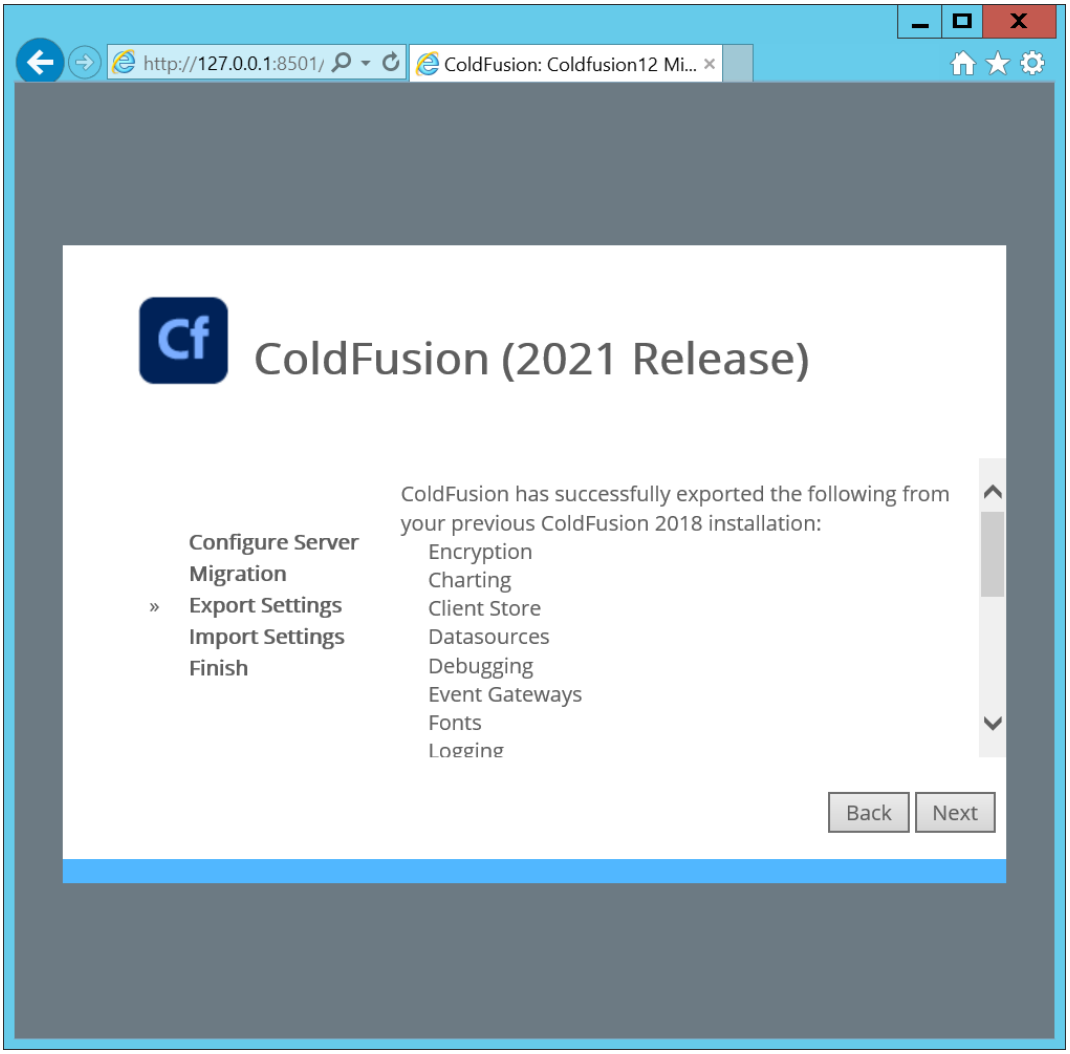


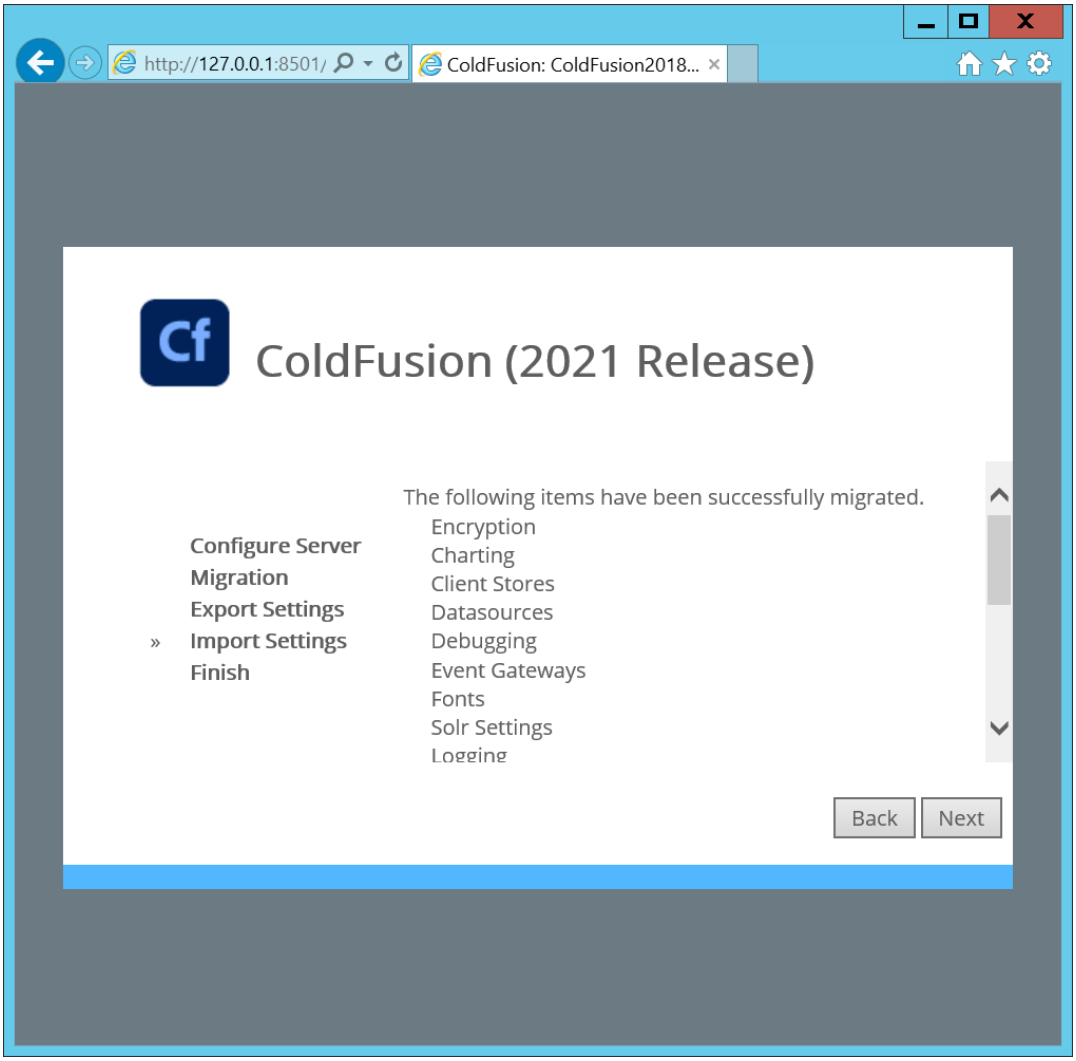
6. Now, the ColdFusion Migration wizard guides you in migrating your server configuration to Adobe ColdFusion (2021 release).



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




http://127.0.0.1:8501/
ColdFusion: Coldfusion12 Mi...
ColdFusion (2021 Release)
Configure Server
Migration
» Export Settings
Import Settings
Finish
ColdFusion has successfully exported the following from your previous ColdFusion 2018 installation:
Encryption
Charting
Client Store
Datasources
Debugging
Event Gateways
Fonts
Logging
Back
Next



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
- ✓ Web Services

- ✓ Rest Services
- ✓ WebSocket

Note: Value for Max Pooled Statements is set to 100 for following drivers- DB2, Informix, Oracle, Microsoft SQL Server, MySQL (DataDirect), Sybase.

What is not Migrated?

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

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

ColdFusion has updated the corresponding settings. However, any other data files (such as databases, Custom Tags, CFX Tags and fonts) under your old Webroot have not been migrated and the corresponding settings still point to their original locations. If you have such files, make sure that you move them and update the settings before deleting your old installation directory. The Solr home is set corresponding to the default jetty locations. If you have a different jetty installation, update this setting appropriately in SOLR setting page in admin.

Installation directory structure:

Tomcat is embedded with a stand-alone Adobe ColdFusion (2021 release) installation. After installing ColdFusion is 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, Adobe ColdFusion (2021 release) is your installation directory. The following table describes the directory structure.

Directory	Description
	Contains the following directories: • 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.

cfusion	• charting: Files for the ColdFusion graphing and charting engine. • 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 programs, libraries, another supporting files. • jnbridge: Files for .NET Integration Services. • lib: JAR, XML, property, and other files that are foundation for ColdFusion. • logs: Repository for ColdFusion log files. JRE-specific log files are in the runtime/logs directory. Console outputs are logged in to start.log instead of cfserver.log • mail: repository for spooled mail and mail that cannot be delivered. • META-INF: XML metadata for ColdFusion Administrator • Registry: This feature is available only on UNIX. This a Flat file to store registry settings • runtime: programs and supporting files for the ColdFusion runtime. Also, it contains the Tomcat libraries. The conf directory in runtime contains all Tomcat configuration files. • stubs: webservices files • wwwroot: Default Webroot directory • cache: repository for temp ColdFusion files.
Config	Contains instance.xml, cfsetup tools and connector configuration files. Also, contains cluster configuration file and cluster.xml.
jre	Java runtime files.
Uninstall	Files to uninstall ColdFusion.
bundles	Repository for packages.

Modifications to the Directory Structure

The following table shows the directories in ColdFusion 9 and the corresponding directories in Adobe ColdFusion (2021 release):

ColdFusion 9	Adobe ColdFusion (2021 release)
C:\ColdFusion9\runtime\lib\wsconfig	C:\ColdFusion2021\config\wsconfig
C:\ColdFusion9\wwwroot\	C:\ColdFusion2021\[Instance Name]\wwwroot
C:\ColdFusion9\runtime\jre	C:\ColdFusion2021\jre
C:\ColdFusion9\runtime\bin	C:\ColdFusion2021\[Instance Name]\bin

Migrating the ColdFusion settings (manual migration)

This section refers to the ColdFusion settings within the ColdFusion administrator, such as Data sources, Scheduled Tasks, Web Services and so on. If you are installing the new ColdFusion server on the same server (where you already have the previously installed ColdFusion server), then, you will be prompted to "Migrate" the settings during installation itself. Follow these steps to manually migrate the ColdFusion settings from the earlier version of ColdFusion to Adobe ColdFusion (2021 release).

- Stop the Adobe ColdFusion 2021 Application service.
- Take a backup of all neo-*.xml files available under <CF_INSTALLDIR_>/cfusion/lib.
- For ColdFusion 2018.x, create a "cf2018settings" directory under {ColdFusion2021-Home}/{instance_name}/lib or {cfusion2021-ear-home}/cfusion-war/WEB-INF/cfsuion/lib directory.

    - For ColdFusion 2016.x, create a "cf2016settings" directory
    - For ColdFusion 11.x, create a "cf11settings" directory
    - For ColdFusion 10.x, create a "cf10settings" directory

- Copy all the neo-*.xml files from {ColdFusion-Home}/lib or {cfusion-ear-home}/cfusion-war/WEB-INF/cfusion/lib of the previous install to the "cf2018settings" or "cf2016settings" or "cf11settings" or "cf10settings" directory.
- Open the adminconfig.xml file at: {ColdFusion2021-Home}/{instance_name}/lib or {cfusion2021- ear-home}/cfusion-war/WEB-INF/cfusion/lib, and make necessary changes to the properties in the following example.
- Do not copy these properties to the "adminconfig.xml".
- Set "runmigrationwizard" value to "True", to force ColdFusion administrator to run the migration.
- Set "migratecf2018" or "migratecf2016" or "migratecf11" or "migratecf10" to "True", based on version of the previous installation. Keep all other settings in the adminconfig.xml the same.

```
<?xml version="1.0" encoding="UTF-8"?>

<setupconfig>
```

```
<runsetupwizard>false</runsetupwizard>
<runmigrationwizard>true</runmigrationwizard>
<runmxmigrationwizard>false</runmxmigrationwizard>
<runsecureprofile>false</runsecureprofile>
<migratecf2018>true</migratecf2018>
<migratecf2016>false</migratecf2016>
<migratecf11>false</migratecf11>
<migratecf10> false</migratecf10>
<setupoptions>
<sampleapps>false</sampleapps>
<odbc>false</odbc>
<enablerds>false</enablerds>
</setupoptions>
</setupconfig>
```

- Save the file and close it.
- Start Adobe ColdFusion 2021 Application service
- To complete the migration, launch Adobe ColdFusion 2021 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 2021 instance, via the ColdFusion 2021 Administrator.

Packaging:

The Packaging and Deployment section of the Administrator lets you 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. If your new ColdFusion server installation is on a different server, then you can create CAR file. This feature is only available in Enterprise/Developer edition of ColdFusion, until version 10. ColdFusion 11 onwards, it is available in all editions and hence in Adobe ColdFusion 2021 as well. The complete list of archival information includes the following:

- ✓ Archive information
- ✓ Assoc. Files/Dirs
- ✓ Server Settings
- ✓ CF Mappings
- ✓ Data Sources
- ✓ CF Collections
- ✓ Scheduled Tasks
- ✓ Event Gateways
- ✓ Java Applets
- ✓ CFX Tags
- ✓ Web Services
- ✓ Rest Services
- ✓ PDF Services
- ✓ Archive to Do List
- ✓ Archive Summary

After you archive the information, you can use the Administrator 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 that apply to all archive and deployment operations. For more information, see the Online Help.

Build an archive:

To build an archive, perform the following steps:

1. To access the ColdFusion Archives page, select **Packaging and Deployment > ColdFusion Archives** in the left navigation pane of the ColdFusion Administrator.
2. On the ColdFusion Archive page, locate the name of the archive definition that you want to archive, and then click the **Build Archive** icon. The Archive Wizard appears.
3. In the archive Wizard, review the archive summary information, and then 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 the existing username and password for this system. The archive process runs for that user. If the username and password do not match the existing username and password for this system account, the build process fails.

5. Click Next to create the archive.

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

- Build Successful: The archive was successfully created and stored in the location that you 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 further analyze the cause of the problem.

J2EE archives:

ColdFusion lets you create an EAR or WAR file that contains an entire application. This archive file contains 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 environments supports multiple, isolated web applications running in a server instance, each J2EE web applications 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 portion 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 URL 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 WAR or EAR files required to create each of the servers in the cluster.

You can create a J2EE archive regardless of whether you are running ColdFusion MX in the server configuration or the J2EE configuration. However, you must be running 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

	EAR to WAR file
Application	Specifies the location of the CFM files to be included beneath the Webroot of 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 lefty arrow buttons to select and remove data sources. Use the Double Arrow buttons to select and remove all data sources with once click.

Migrating the deployed applications:

After installing the ColdFusion server and migrating the ColdFusion settings, you can then migrate your applications manually to the new server. This is the actual process of migrating your server repository or the website files. If the migration involves setting up of a new server/webserver, then 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 webserver level) provided, your webserver supports the utility. If the website resides on the same server and the installation only involves ColdFusion server upgrade/migration, then you can skip this section. You must remove the connector from the previous ColdFusion server and create the connector to the new ColdFusion server.

Note: This Migration Guide is just to provide an overview about the migration process and as mentioned above, may vary from environment to environment. This is a strong 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 2021 from earlier versions of ColdFusion (i.e ColdFusion 2018, ColdFusion 2016, ColdFusion 11).

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 that ensure a smooth migration.

The Code Analyzer has the following purposes:

- They can validate the CFML syntax if your application. To do so, the analyzer runs the ColdFusion compiler on your pages, but does not execute the complied 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 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 border layout (cflayout withtype="border").
    - **Deprecated:** They are still available, but their use is not recommended, and they are not 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, cachedirectory, port and protocol.

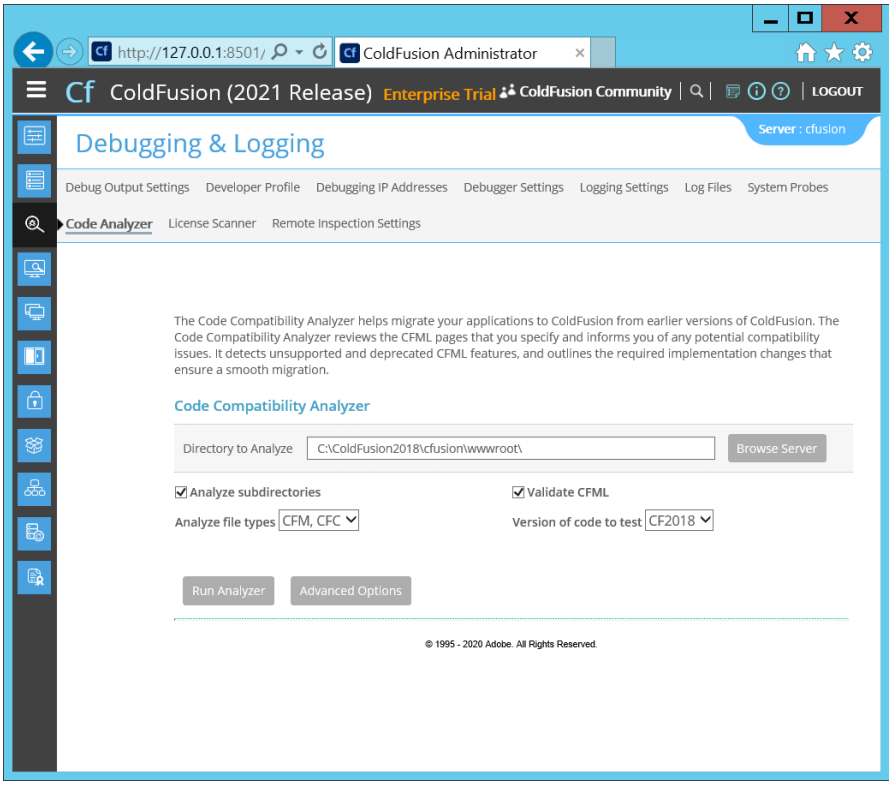
- **Modified behavior:** They behave differently than in previous versions. For example, if you use cfcachetag in ColdFusion 11 without end tag (</cfcache>), then instead of caching only the current page (which was the behavior in the previous releases), the entire request is cached.
- **New:** If you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

You can run the Code Analyzer from the ColdFusion Administrator. Select Code Analyzer from the list of Debugging & Logging pages.

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:

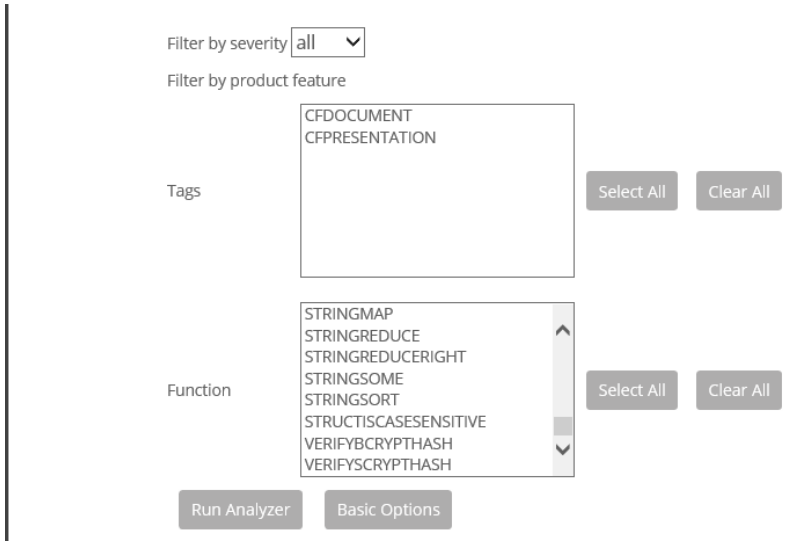
1. Go to ColdFusion Administrator.
2. Go to **Debugging & Logging > Code Analyzer.**



3. Browse and select the ColdFusion2018/ColdFusion2016/ColdFusion 11 installation directory containing the ColdFusion 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.

Using the ColdFusion package manager:

The new modularized zip-based installers in Adobe ColdFusion (2021 release) only contains the core by default. This functionality provides better flexibility to experienced users who want to install only the software components in which they are interested thus reducing the disk footprint and improving runtime. The ColdFusion package manager provides ability to install, remove and update packages using admin console or via command line utility(*cfpm*). It can be pretty difficult task to identify the list of packages that must be installed to run the application successfully. The command line utility- *cfpm*, can be used to scan through the specific code base and get the list of required packages to be installed. Use "*scan*" and "*scanandinstall*" options provided by *cfpm* utility to scan the code and install the missing packages.

Migration Issues:

The following section describes the most common migration issues:

CFCs not recognized in Dreamweaver:

When you migrate from an earlier version of ColdFusion 2018/2016/11/10 to Adobe ColdFusion 2021, the CFC's do not appear in the components panel of Dreamweaver.

Solution:

Check the mappings and update them, as necessary.

Installation fails:

On Unix and Linux systems, when you try to install ColdFusion on systems where the /tmp partition is mounted noexec, the installation fails.

Solution:

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

Data Source not recognized

When you migrate from an earlier version of ColdFusion 2018/2016/11/10 to Adobe ColdFusion 2021, your application does not recognize data source.

Solution:

Redefine the data sources.

Help and tutorials

1. A video by ColdFusion Product Team on ColdFusion archives
2. ColdFusion Product Help Page
3. Adobe ColdFusion (2021 release) Documentation
4. Adobe ColdFusion (2021 release) Support Matrix
5. Adobe ColdFusion (2021 release) Installation Guide