

MIGRATING OR COMPARING CF ADMIN SETTINGS

BETWEEN INSTANCES, VERSIONS, AND ENGINES

Charlie Arehart

charlie@carehart.org, @carehart

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- ▶ Migrate all admin settings to initially setup an instance, based on another?
 - ▶ Or migrate SOME but not all admin settings?
- ▶ Compare settings, to identify differences between instances?
- ▶ How would you do these?
- ▶ May want to do these between:
 - ▶ One CF version and another (like CF11 and CF2018)
 - ▶ One CF instance and another, whether on one machine or another
 - ▶ A CF instance and a Lucee instance
- ▶ ...

HAVE YOU EVER WANTED TO...

- ▶ Will demo these today, with tips, warnings, best practices
- ▶ **Migration “wizard”** offered at end of CF installer, on first launch of CF Admin
- ▶ **ColdFusion Archive (CAR)** feature
- ▶ **CFConfig** (via CommandBox—even for other than “box” instances)
- ▶ **CFSetup** (new in CF2021)
- ▶ And finally **a special treat**, to help with comparing settings two ways
 - ▶ Cross-platform tool able to handle even CF’s wddx-formatted XML files
 - ▶ And of course, it can handle comparing your code, logs, and any text
- ▶ Presentation slides (including demo steps) available after session at my site

TODAY’S DEMOS

MIGRATING CF ADMIN SETTINGS

With “traditional” tools

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charlie@carehart.org
@carehart

- ▶ Runs optionally, if installer detects previous version on same machine
 - ▶ Demo
 - ▶ Logs: migration.log, migrationexception.log in CF logs folder
- ▶ Can also be triggered to run again later (details in blog post, docs)
 - ▶ carehart.org/blog/client/index.cfm/2014/11/11/import_cfadmin_settings_anytime_using_import_wizard
 - ▶ In brief:
 - ▶ copy neo*.xml files from previous release lib to a particular folder in destination instance
 - ▶ Also need seed.properties if any of those neo xml files hold passwords that CF encrypted
 - ▶ modify adminconfig.xml in dest instance, telling it to re-run the wizard
 - ▶ log into/refresh dest CF Admin, which will trigger running it again
 - ▶ Demo

FIRST-LAUNCH “MIGRATION WIZARD”

- ▶ Can be used anytime, to export out/import in CF Admin settings
- ▶ Offered in CF Std and Enterprise since CF11 (Enterprise-only before that)
 - ▶ carehart.org/blog/client/index.cfm/2014/11/11/cf11_hidden_gem_CF_archives_in_standard
- ▶ Note: may need to enable popups, in browser
- ▶ Demo
- ▶ How CAR file is really just a zip
- ▶ Logs: car.log in CF logs folder, and one for each export or import
- ▶ Docs on CAR and Migration “Wizard”
 - ▶ adobe.com/content/dam/acom/en/products/coldfusion/pdfs/cf2018/cf2018-migration-guide.pdf

COLDFUSION ARCHIVE (CAR) MECHANISM

- ▶ This is a shortcut some have taken, and others even recommend
- ▶ Generally a bad idea
 - ▶ Especially if done between versions of CF (format, features change)
 - ▶ But even between SAME CF version

WHAT NOT TO DO: COPY NEO*.XML FILES
BETWEEN INSTANCES

- ▶ What about passwords?
 - ▶ Stored in encrypted form (in neo*.xml files, and in CAR)
 - ▶ Decrypted by CF using seed (stored in seed.properties file) that's different between instances
 - ▶ CAR and migration features are designed to handle this, but do beware...
 - ▶ coldfusion.adobe.com/2020/07/importance-of-securing-car-files/
- ▶ File paths
 - ▶ Some imported settings may have version-number references
 - ▶ CAR and migration features designed to handle this on migration to new version number
- ▶ ...

CONSIDERATIONS ABOUT MIGRATION

- ▶ Beware regarding JVM args
 - ▶ Some that “worked” in one instance/version/machine may not work on import to another
 - ▶ Perhaps specific to a given Java version
 - ▶ Or literally the path to Java itself (if changed from CF's default)
 - ▶ JVM args supporting a tool not implemented for new instance (such as FusionReactor)
 - ▶ Beware that such problems won't be exhibited until CF is restarted, which you may not think to do after import/migration
- ▶ Security-oriented settings
 - ▶ Some might reduce security of the instance to which they are being migrated
 - ▶ Since CF2016, CAR and migration features designed to handle, log this

CONSIDERATIONS ABOUT MIGRATION (CONT.)

- ▶ Before an import, consider backing up the files that would change, typically:
 - ▶ Neo*.xml files (in cfusion/lib, or [instancename]/lib)
 - ▶ Jvm.config (in cfusion/bin, or [instancename]/bin)
- ▶ After import, do a restart, to confirm that CF CAN restart
 - ▶ If not, check what changed
 - ▶ See the migration/car import logs
 - ▶ Compare things to the backup made in step 1
- ▶ Demo: **using BeyondCompare to compare neo XML files**
 - ▶ You may feel “any text compare tool” can do that
 - ▶ Check out optionally downloadable “format” called “xml sorted”
 - ▶ scootersoftware.com/download.php?zz=moreformats

SOME BEST PRACTICES

MIGRATING CF ADMIN SETTINGS

With “modern” tools

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charlie@carehart.org
@carehart

- ▶ Again, is a tool that works with CommandBox
 - ▶ You may not know of that: open source from Ortus Solutions
 - ▶ May know CommandBox as a REPL for CFML
 - ▶ May know it also as a way to easily start, manage instances of CF, Lucee
- ▶ CFConfig is a “module” (also open source) you can add to Commandbox
 - ▶ Note that it works NOT ONLY with “box” instances you may create
 - ▶ But **can be pointed to config file folder for ANY CF or Lucee instance**
 - ▶ Whether **running or not** (technically, can be a copy of settings folder from elsewhere)
- ▶ Can export or import, even ACROSS engines (CF to Lucee, or vice-versa)
- ▶ More: forgebox.io/view/commandbox-cfconfig
 - ▶ ortusolutions.com/blog/introducing-cfconfig-a-new-way-to-manage-your-cf-servers-configuration-from-the-command-line
- ▶ ...

CFCONFIG: PERHAPS A “SURPRISE”

- ▶ Download and extract Commandbox (box executable), if not yet installed
 - ▶ Box executable, available for Windows, MacOS, linux
- ▶ Implement cfconfig module
 - ▶ **box install commandbox-cfconfig**
- ▶ Can run cfconfig commands, using **box cfconfig <command>**
 - ▶ Or can run *box*, THEN run **cfconfig** (or other box commands)
- ▶ Naming a *from* (or *to*) arg that names folder holding config settings
 - ▶ For CF, folder with lib/neo-runtime.xml file, so for example C:/ColdFusion2018/cfusion
 - ▶ For Lucee web context: folder with lucee-web.xml.cfm file, eg <webroot>/WEB-INF/lucee
 - ▶ For Lucee's server context: folder with /context/lucee-server.xml file, eg /opt/lucee/lib/lucee-server

RUNNING CFCONFIG

- ▶ Commands:
 - ▶ **cfconfig help**
 - ▶ **cfconfig show** all settings
 - ▶ **cfconfig export** or **import** all settings, to/from a json file
 - ▶ Can't export only "some" settings, but can edit the json to include only what you want
 - ▶ Can export from one engine, then import that into another, or...
 - ▶ **cfconfig transfer** all settings, directly from one instance/engine to another
 - ▶ **cfconfig show** or **set** individual settings
 - ▶ **cfconfig list, save** to, **delete** from grouped settings (like dsn's, mappings, etc)
- ▶ ...

RUNNING CFCONFIG (CONT.)

- ▶ Some examples:
 - ▶ `cfconfig show from=C:\ColdFusion2018\cfusion`
 - ▶ `cfconfig show property=requesttimeout from=C:\ColdFusion2018\cfusion`
 - ▶ Or can leave off argnames:
 - ▶ `cfconfig show requesttimeout C:\ColdFusion2018\cfusion`
 - ▶ `cfconfig show requesttimeout C:\lucee\tomcat\lucee-server`
 - ▶ `cfconfig show from=C:\lucee\tomcat\webapps\ROOT\WEB-INF\lucee`
 - ▶ `cfconfig set requesttimeout=0,0,0,61 to=C:\ColdFusion2018\cfusion`
 - ▶ Would need to restart CF to take effect
 - ▶ `cfconfig export cf2018config.json C:\ColdFusion2018\cfusion`
 - ▶ `cat cf2018config.json`
 - ▶ `edit cf2018config.json`
 - ▶ `cfconfig import cf2018config.json C:\ColdFusion2016\cfusion`
 - ▶ `cfconfig transfer C:\ColdFusion10\cfusion C:\ColdFusion2018\cfusion`
 - ▶ `cfconfig transfer C:\ColdFusion10\cfusion C:\lucee\tomcat\lucee-server`

RUNNING CFCONFIG (CONT.)

- ▶ Works much like CFConfig (though obviously just for CF, within CF2021)
 - ▶ Though it does work WITH CF admin setting config folders for CF2018 and earlier
 - ▶ Not to be confused with CF2021 package mgt tool, CFPM (for module config)
- ▶ Found in CF2021's config\cfsetup folder (not cfusion)
- ▶ Like cfconfig, offers several commands:
 - ▶ **help**
 - ▶ **show** all settings, or all in a category of settings
 - ▶ **show category**, to see all categories for settings
 - ▶ **export, import** all settings, or all in a category, to/from a json file
 - ▶ **get, set, add, delete** individual settings (within named categories)

CFSETUP (NEW IN CF2021)

- ▶ Also like cfconfig, can enter cfsetup as a CLI, then enter commands, such as:
 - ▶ **show all C:\ColdFusion2021\cfusion**
 - ▶ Or simply **show all cfusion**
 - ▶ **export all cf2021.json cfusion**
 - ▶ Or
 - ▶ **alias cf cfusion**
 - ▶ **show all cf**
 - ▶ **export all cf2021.json cf**
 - ▶ Or
 - ▶ **Select cf**
 - ▶ **Show all**
 - ▶ **export all cf2021.json**
- ▶ Again, works even with CF2018, 2016, 11, and 10, in my testing
 - ▶ **show all C:\ColdFusion2018\cfusion**

CFSETUP (IN CF2021) (CONT.)

- ▶ Like the CF CAR feature, the CF2021 cfsetup tool stores encrypted pw's
 - ▶ FYI: Commandbox CFConfig tool exports any password as plain text
- ▶ Like CAR, decryption key and algorithm are stored with the export file
 - ▶ Used during import process to decrypt any pw's, then import them
- ▶ Can optionally create a passphrase while exporting with Cfsetup (-p)
 - ▶ Which must then be provided when importing the exported settings
- ▶ Take due care if no passphrase set, if settings include any pw's
 - ▶ Again, see my post on protecting CAR files
 - ▶ coldfusion.adobe.com/2020/07/importance-of-securing-car-files/

PASSWORDS IN EXPORT FILES

- ▶ Automated configuration of Adobe CF Docker images
 - ▶ Supports import of CAR files, if placed in **/data** folder within image/volume
 - ▶ Supports **setupscript** environment variable, naming CFM file to use Admin API
 - ▶ helpx.adobe.com/coldfusion/using/docker-images-coldfusion.html
 - ▶ CF2021 supports **importCFSettings** env var, naming json file created with cfsetup
 - ▶ **importCFSettingsPassphrase**: passphrase for importing cfsetup export file, if one was set
 - ▶ Also control of modules/packages (cf features) to be used within container:
 - ▶ **installModules**: naming modules to be implemented (comma-separated or 'all')
 - ▶ **importModules**: naming file holding modules to implement (created by cfpm export)
- ▶ Commandbox Docker images for CF or Lucee
 - ▶ Supports **cfconfigfile** env var, naming json file created with cfconfig
 - ▶ And still more: hub.docker.com/r/ortussolutions/commandbox/

DOCKER “MIGRATION” OPTIONS

COMPARING CF ADMIN SETTINGS

Several, perhaps surprising ways

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charlie@carehart.org
@carehart

- ▶ Compare using two browser screens, going page by page in Admin
- ▶ Better: comparing CF Admin “Settings>Settings Summary” page
 - ▶ Again, either on two browser screens
 - ▶ Or as a pdf: note button on that page, to create a PDF
- ▶ Or ...

“TRADITIONAL” APPROACHES

- ▶ Better still: use BeyondCompare (or any compare tool)
 - ▶ Use “select all” in browser on “settings summary” content
 - ▶ Paste text from two instances on line 1 within BeyondCompare
 - ▶ Can easily see admin differences between one instance and another
 - ▶ Even between one CF version and another!
- ▶ Demo

FIRST “SURPRISING” APPROACH

- ▶ Commandbox CFConfig **diff** command
 - ▶ **cfconfig diff from=D:\ColdFusion2016\cfusion to=D:\ColdFusion2018\cfusion**
 - ▶ Can add **--valuesdiffer**, to see **only** the differences
 - ▶ Note when comparing two engines/versions:
 - ▶ If one engine/version has a given setting, but the other does not, not shown in --valuesdiffer
 - ▶ See available **--fromonly** and **--toonly** args, to help with that
 - ▶ Can also save diff as a “report” (html or PDF), adding:
 - ▶ **HTMLReportPath**=folder/file.html or
 - ▶ **PDFReportPath**=folder/file.pdf
 - ▶ And more
 - ▶ **cfconfig diff from=C:\ColdFusion10\cfusion to=C:\ColdFusion11\cfusion pdfreportpath=diff.pdf**

SECOND “SURPRISING” APPROACH

- ▶ Again, many ways to do migration and comparison of CF/Lucee Admin settings
 - ▶ Migration:
 - ▶ CF “migration wizard” on first-run of admin, or as configured to re-run
 - ▶ CF CAR file mechanism
 - ▶ Commandbox CFConfig
 - ▶ CF2021 cfsetup
 - ▶ Comparison:
 - ▶ Browser
 - ▶ Beyondcompare
 - ▶ CFConfig diff
- ▶ Reach out to me with questions (see bottom right)

SUMMARY