

MIGRATING CF ADMIN SETTINGS BETWEEN VERSIONS SAFELY



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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 this between:
 - ▶ one CF version and another (like CF11 and CF2023)
 - ▶ one CF instance and another, whether on one machine or another
 - ▶ or perhaps a CF instance and a Lucee instance
- ▶ ...

HAVE YOU EVER WANTED TO...

- ▶ First, two “traditional” approaches to migrating admin settings:
 - ▶ Migration wizard at first launch of CF Admin
 - ▶ CAR file feature, within CF Admin
 - ▶ And one approach to avoid: copying neo-*.xml files
- ▶ Then, two more modern approaches:
 - ▶ cfsetup (cli, new in CF2021)
 - ▶ cfconfig (commandbox module)
- ▶ Some considerations about admin settings migration
- ▶ Finally, options to easily compare CF admin settings across instances, versions

TODAY'S TOPICS/DEMOS

- ▶ I focus on CF server troubleshooting, as an independent consultant
 - ▶ Assist organizations of all sizes, experience levels
 - ▶ Work remotely: safe, secure, easy via **shared desktop** (zoom, meet, teams, etc.)
 - ▶ **Solve most problems in less than an hour**, teaching you also as we go
 - ▶ **Satisfaction guaranteed**
 - ▶ More on rates, approach, online calendar, etc at carehart.org/consulting
- ▶ But to be clear, I'm not selling anything in this session! 😊
 - ▶ Just sharing my experience, and that of others
- ▶ Presentation online at carehart.org/presentations



ME.ABOUT()

MIGRATING CF ADMIN SETTINGS

With “traditional” tools

- ▶ Runs optionally on first launch of CF Admin
 - ▶ If installer detects previous version on same machine
 - ▶ Screenshots:
 - ▶ cfdownload.adobe.com/pub/adobe/coldfusion/migration_guide/CF2023-migration_guide.pdf#page=7
 - ▶ Logs: migration.log, migrationexception.log in CF logs folder
- ▶ ...but what if you missed that chance?...

CF INSTALLER “MIGRATION WIZARD”

- ▶ Can also be triggered to run again later
 - ▶ 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 to a particular folder in new release
 - ▶ modify adminconfig.xml file telling it to re-run the wizard
 - ▶ log into/refresh CF Admin, which will trigger running it again
- ▶ Demo

CF INSTALLER “MIGRATION WIZARD” (CONT.)

- ▶ Can be used anytime, to export/import some or all CF Admin settings
- ▶ See “Packaging & Deployment” section of CF Admin, to create/deploy archive
 - ▶ Note: may need to enable popups, in browser
- ▶ Offered in CF Standard since CF11 (was Enterprise-only before that)
 - ▶ carehart.org/blog/client/index.cfm/2014/11/11/cf11_hidden_gem_CF_archives_in_standard
- ▶ Demo
- ▶ Logs: car.log in CF logs folder, and one for each export or import
- ▶ CAR file is really just a zip, can explore/extract it
- ▶ Con: requires CF Admin UI, not suited to automation or headless environments

COLDFUSION ARCHIVE (CAR) MECHANISM

- ▶ This is a shortcut some have taken, and others even recommend
- ▶ Generally a bad idea, as file format and features can change
 - ▶ Especially if done between different versions of CF
 - ▶ But even between SAME CF version
- ▶ Also, passwords within the files are encrypted by the current CF instance
 - ▶ Cannot be decrypted on the new instance, even if the same CF version
- ▶ ...so what are better options? ...

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

MIGRATING CF ADMIN SETTINGS

With more modern tools

- ▶ New with CF2021, a CLI tool to view/manage CF Admin settings
 - ▶ Not to be confused with other new CF2021 CLI tool, CFPM, for package mgt
- ▶ Found in CF's config\cfsetup folder (not within cfusion\bin like other tools)
- ▶ I've done an entire talk on using the CFSETUP tool
 - ▶ "Using Adobe's "new" CFSetup tool to manage CF Admin settings for ANY CF version"
- ▶ helpx.adobe.com/coldfusion/using/cfsetup-configuration-tool.html
- ▶ Briefly, offers several commands:
 - ▶ **help**
 - ▶ **show category**, to see all categories for settings
 - ▶ **show all** settings
 - ▶ **show [category]** – to list all in a category
 - ▶ **show [category] [itemname]** – to list details of that item in that category
 - ▶ **export, import** all settings, or all in a category, to/from a json file
 - ▶ **get, set, add, delete** individual settings (within named categories)

CFSETUP (CLI TOOL)

- ▶ CLI can be run imperatively, such as:
 - ▶ **`C:\ColdFusion2023\config\cfsetup\cfsetup show all C:\ColdFusion2023\cfusion`**
- ▶ or interactively such as
 - ▶ **`cd C:\ColdFusion2023\config\cfsetup`**
 - ▶ **`cfsetup`**
 - ▶ **`show all C:\ColdFusion2023\cfusion`**
 - ▶ **`show categories`**
 - ▶ **`show datasource C:\ColdFusion2023\cfusion`**
- ▶ Note that the CF instance DOES NOT need be running!
- ▶ Even works with CF2018, and earlier (though docs suggest it's not supported)
 - ▶ **`show all C:\ColdFusion2018\cfusion`**

CFSETUP (CONT.)

- ▶ More examples
 - ▶ *export all cf2023.json cf2023*
 - ▶ *export datasource cf2023.json cf2023*
 - ▶ *alias cf2023 C:\ColdFusion2023\cfusion*
 - ▶ *show datasource cfartgallery cf2023*
 - ▶ *get datasource cfartgallery port cf2023*
 - ▶ *set datasource cfartgallery port="123" cf2023*
 - ▶ *get runtime timeoutRequestsAfterSeconds cf2023*

CFSETUP (CONT.)

- ▶ If you get error, “JAVA_HOME is not set”, just need to set it
 - ▶ Can do so temporarily, such as (in Windows):
 - ▶ `set java_home="D:\coldfusion2021\jre"`
- ▶ Additional documentation on CFSETUP
 - ▶ helpx.adobe.com/coldfusion/using/cfsetup-configuration-tool.html
 - ▶ cfdownload.adobe.com/pub/adobe/coldfusion/migration_guide/CF2023-migration_guide.pdf#page=11
 - ▶ My talk, “Using Adobe's "new" CFSetup tool to manage CF Admin settings for ANY CF version”
- ▶ And before that was created, Commandbox had added a powerful module...

CFSETUP (CONT.)

- ▶ Again, is a tool that works with CommandBox (from Ortus Solutions, open source)
 - ▶ Originally a REPL for CFML, later 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)
- ▶ *forgebox.io/view/commandbox-cfconfig*
 - ▶ *ortussolutions.com/blog/introducing-cfconfig-a-new-way-to-manage-your-cf-servers-configuration-from-the-command-line*
- ▶ ...

CFCONFIG: COMMANDBOX CLI TOOL

- ▶ 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:/ColdFusion2023/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

- ▶ Some example commands (demos in a moment):
 - ▶ **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:\ColdFusion2023\cfusion`
- ▶ `cfconfig show property=requesttimeout from=C:\ColdFusion2023\cfusion`
 - ▶ Or can leave off argnames:
 - ▶ `cfconfig show requesttimeout C:\ColdFusion2023\cfusion`
- ▶ `cfconfig set requesttimeout=0,0,0,61 to=C:\ColdFusion2023\cfusion`
 - ▶ Would need to restart CF to take effect
- ▶ `cfconfig export cf2023config.json C:\ColdFusion2023\cfusion`
- ▶ `cfconfig import cf2023config.json C:\ColdFusion2018\cfusion`
- ▶ `cfconfig transfer C:\ColdFusion10\cfusion C:\ColdFusion2023\cfusion`
- ▶ `cfconfig transfer C:\ColdFusion2023\cfusion C:\lucee\tomcat\lucee-server`

RUNNING CFCONFIG (CONT.)

OTHER CONSIDERATIONS

- ▶ Automated configuration of **Adobe CF Docker images**
 - ▶ They support import of CAR files, if placed in **/data** folder within image/volume
 - ▶ Support **setupscript** environment variable, naming CFM file to use Admin API
 - ▶ helpx.adobe.com/coldfusion/using/docker-images-coldfusion.html
 - ▶ CF2021 adds **importCFSettings** env var, naming json file created with cfsetup
- ▶ **Commandbox Docker images** for CF or Lucee
 - ▶ Support **cfconfigfile** env var, naming json file created with cfconfig
 - ▶ They also support naming specific cfconfig settings as individual env vars
 - ▶ And still more: hub.docker.com/r/ortussolutions/commandbox/

DOCKER “MIGRATION” OPTIONS

- ▶ What about passwords (datasources, scheduled tasks, cloud services, etc.)?
 - ▶ 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
- ▶ All CF (and Ortus) migration features designed to handle this
 - ▶ But do beware about CARs, which hold encrypted values AND decryption key
 - ▶ coldfusion.adobe.com/2020/07/importance-of-securing-car-files/
 - ▶ cfsetup export offers a passphrase feature to encrypt those, for storing json file at-rest
 - ▶ Cfconfig export stores the unencrypted passwords in its json file

CONSIDERATIONS ABOUT MIGRATION

- ▶ Beware regarding JVM args
 - ▶ Some from one instance/version/machine may not work on import to another
 - ▶ Path to Java itself (if changed from CF's default)
 - ▶ JVM args supporting a tool not implemented for new instance (such as FusionReactor)
 - ▶ Args perhaps specific to a given Java version
 - ▶ 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 of them might reduce security of the instance to which they are being migrated
 - ▶ Since CF2016, CAR and migration features are designed to handle, report, log this

CONSIDERATIONS ABOUT MIGRATION (CONT.)

- ▶ Before a migration, 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)
 - ▶ Note that cfsetup import DOES do a backup of what would change
 - ▶ Stored in **cfusion/lib/cfsetup_backup** folder
- ▶ After import, do a restart to confirm that CF CAN restart with new settings
 - ▶ If not, check what changed, including migration/car import logs
 - ▶ Compare things to the backup made in step 1
- ▶ ...and we could call it a day, but speaking of comparing, if we have time ...

SOME BEST PRACTICES

COMPARING CF ADMIN SETTINGS

Several, perhaps surprising ways

- ▶ Compare using two browser tabs, going page by page in Admin
- ▶ Better: comparing CF Admin “Settings>Settings Summary” page
 - ▶ Shows about 95% of all CF admin settings, on one screen
 - ▶ Can view on two browser tabs/screens
 - ▶ Or view as a pdf: available “Save as PDF” button on that page
- ▶ Better still, let your computer do the work! ...

“TRADITIONAL” APPROACHES

- ▶ Better still: use BeyondCompare (or any compare tool)
 - ▶ Use “select all” in browser on “settings summary” content
 - ▶ Copy/paste text from the two instances into BeyondCompare (line 1 on both sides)
 - ▶ Can easily see admin differences between one instance and another
 - ▶ Even between one CF version and another!
- ▶ Demo
- ▶ **Bonus: using BeyondCompare to directly compare cfconfig json export or even neo XML files**
 - ▶ Many compare tools can't handle single line json or XML
 - ▶ Check out optionally downloadable free “formats” called “json sorted”, “xml sorted”
 - ▶ scootersoftware.com/download.php?zz=moreformats
 - ▶ Demo, if time

COMPARING “SETTINGS SUMMARY”

- ▶ Of course, it can handle comparing your code, logs, and any text
- ▶ Best trial in IT: 30 days of USE (so once a week for 30 weeks!, for instance)
 - ▶ Also low-cost to buy, starting at \$35 (one-time cost)
- ▶ *scootersoftware.com*

MORE ON BEYONDCOMPARE

- ▶ Commandbox CFConfig **diff** command
 - ▶ **cfconfig diff from=C:\ColdFusion2018\cfusion to=C:\ColdFusion2023\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)
- ▶ ... Time to wrap it up ...

CFCONFIG ALSO OFFERS “DIFF”

- ▶ Adobe CF Migration Guide (new one for 2023, and each previous release)
 - ▶ cfdownload.adobe.com/pub/adobe/coldfusion/migration_guide/CF2023-migration_guide.pdf
- ▶ My related talks (carehart.org/presentations):
 - ▶ 'Using Adobe's "new" CFSetup tool to manage CF Admin settings for ANY CF version'
 - ▶ "Installing CF2023: choices, challenges, and solutions"
 - ▶ "Migrating apps to ColdFusion 2023 from earlier versions"
 - ▶ "Updating the Java underlying ColdFusion: considering it, doing it"
 - ▶ "The Many Capabilities of the CF Package Manager, cfpm"
 - ▶ "Hidden Gems in CF2023"

RESOURCES

- ▶ 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
 - ▶ cfsetup (CF2021 and later)
 - ▶ Commandbox CFConfig module
 - ▶ Settings comparison, via:
 - ▶ Browser tabs (eyeball differences in each page or settings summary)
 - ▶ Beyondcompare of settings summary
 - ▶ CFConfig diff feature
- ▶ Reach out to me with questions/share feedback (direct or publicly)
 - ▶ Slack, Github, X, Fb, Li, Skype, etc. simply as @carehart
 - ▶ Email: charlie@carehart.org

SUMMARY