

# MIGRATING OR COMPARING CF ADMIN SETTINGS

**BETWEEN INSTANCES, VERSIONS, AND ENGINES**

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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** (coming in CF2020, already demonstrated publicly by Adobe)
- ▶ 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



- ▶ 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](http://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 destination instance
    - ▶ 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](http://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](http://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...
    - ▶ <https://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](http://scootersoftware.com/download.php?zz=moreformats)

## SOME BEST PRACTICES

# MIGRATING CF ADMIN SETTINGS

With “modern” tools



- ▶ 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](https://forgebox.io/view/commandbox-cfconfig)
  - ▶ [ortusolutions.com/blog/introducing-cfconfig-a-new-way-to-manage-your-cf-servers-configuration-from-the-command-line](https://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.)

- ▶ Coming in CF2020, again already demonstrated publicly by Adobe
  - ▶ Works much like CFConfig (though obviously just for CF, indeed just CF2020)
  - ▶ Not to be confused with CF2020 package mgt tool, CFPM
- ▶ Found in CF2020'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 (IN CF2020)



- ▶ Like cfconfig, can enter cfsetup as a CLI, then enter commands, such as:
  - ▶ **show all C:\cf2020beta\cfusion**
  - ▶ or
    - ▶ **export all cf2020.json C:\cf2020beta\cfusion**
  - ▶ Or
    - ▶ **alias cf C:\cf2020beta\cfusion**
    - ▶ **show all cf**
    - ▶ **export all cf2020.json cf**
  - ▶ Or
    - ▶ **Select cf**
    - ▶ **Show all**
    - ▶ **export all cf2020.json**
- ▶ **Show all** even works with CF2018, CF11 (not CF10 or earlier)
  - ▶ **show all C:\ColdFusion2018\cfusion**

## CFSETUP (IN CF2020) (CONT.)

- ▶ Unlike the CF CAR feature, both the CF2020 cfsetup tool AND the Commandbox CFConfig tool export any password as plain text
- ▶ Take due care with the exported json files, if they include settings with pw's

## 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](https://helpx.adobe.com/coldfusion/using/docker-images-coldfusion.html)
  - ▶ CF2020 supports **importCFSettings** env var, naming json file created with cfsetup
    - ▶ **installModules** env var, naming modules to be implemented
- ▶ 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/](https://hub.docker.com/r/ortussolutions/commandbox/)

## DOCKER “MIGRATION” OPTIONS

# COMPARING CF ADMIN SETTINGS

Several, perhaps surprising ways



- ▶ 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
    - ▶ CF2020 cfsetup
  - ▶ Comparison:
    - ▶ Browser
    - ▶ Beyondcompare
    - ▶ CFConfig diff
- ▶ Reach out to me with questions (see bottom right)

## SUMMARY