

THE MANY WAYS TO RUN CF OR LUCEE



Charlie Arehart, Independent Consultant
CF Server Troubleshooter
charlie@carehart.org
@carehart (Slack, GitHub, Fb, Li, Tw, Skype, etc.)

Updated June 8, 2023

- ▶ Developer, admin, both, or some other role?
- ▶ User of CF, Lucee, or both CFML engines?
- ▶ Primarily (or ONLY) using Commandbox to run your CF engine?
 - ▶ Or perhaps only using CF engine as implemented by installer process
 - ▶ Or only ever using zip install process (Lucee and CF support this)
 - ▶ Or perhaps you only ever use silent (automated) install processes
 - ▶ Or only ever using CF as implemented by CFBuilder 2018 installer
 - ▶ Or use CF implemented by someone else (VM, svr, hosted, cloud, containers)
 - ▶ And so on

WHO MIGHT YOU BE?

- ▶ Maybe you didn't even realize all these were options!
 - ▶ Easy to presume that how you work is how everyone does
 - ▶ And you may even wonder why everyone doesn't work your way 😊
- ▶ There can indeed be legit reasons:
 - ▶ Need to mimic how someone or something else already works
 - ▶ Or have others directing how you must work
 - ▶ Or simply prefer to work the way "most others" do (depends on your "crowd")
 - ▶ Or need specific benefits a given approach offers...

ONE SIZE DOES NOT FIT ALL

- ▶ May want to:
 - ▶ Better automate deployment of CFML
 - ▶ Deploy via containers/orchestration
 - ▶ Implement as part of CI/CD workflow
 - ▶ Leverage serverless deployment
 - ▶ Deploy onto something relying on WAR files
 - ▶ Test against more than one CFML engine, or across different versions of the engine(s)
 - ▶ Run a quick and dirty test of some CFML

STILL OTHER REASONS

- ▶ Talk will be mix of overview and some demos
 - ▶ Primary goal is simply to make folks aware of options they may not know about
 - ▶ Don't have time to demo each approach or even many nuances/aspects
- ▶ Slides for this talk available online now:
 - ▶ *carehart.org/presentations*
 - ▶ Recordings of all Online CF Meetups are available immediately after session
 - ▶ And via *recordings.coldfusionmeetup.com*

- ▶ I focus on CF server troubleshooting, as an independent consultant
 - ▶ Assist organizations of all sizes, experience levels
 - ▶ Work remotely 99% of the time, safe, secure, easy (via **shared desktop**)
 - ▶ **Solve most problems in less than an hour**, teaching you also as we go
 - ▶ **Satisfaction guaranteed**
 - ▶ More on rates, approach, etc at carehart.org/consulting
- ▶ But to be clear, I'm not selling anything in this session! 😊

ME.ABOUT()

- ▶ Run it via Commandbox
- ▶ Install it (including via automation)
- ▶ Containerize it
- ▶ Deploy it via WAR/EAR files
- ▶ Honorable mention: run CFML via trycf.com and cffiddle.org
- ▶ Honorable mention: run CFML via CLI's (REPL)
- ▶ Did I miss any?
- ▶ ...and even these have options within them, as we'll see

THE MANY OPTIONS TO DEPLOY A CFML ENGINE (CF OR LUCEE)

- ▶ Powerful tool that helps with this and MANY tasks
 - ▶ Indeed so much that we could spend days on it
 - ▶ See 27-part cfcasts series! Also *commandbox.ortusbooks.com*
- ▶ Can run any CF version, any Lucee version, and of course more than one
 - ▶ No need of “installer” (or zip or war...though actually it deploys war files undercover)
- ▶ Once Commandbox itself is installed, can go to directory with CFML code and...
 - ▶ **[box] start cfengine=adobe@2023** or **[box] start cfengine=lucee@5.3.10**
 - ▶ Creates a new internal web server ready to run that code, and tray icon to manage
- ▶ **Can** use Commandbox to run production (though not ColdFusion Standard)
 - ▶ Including control via OS services, support of multiple virtual hosts/SNI, & more

OPTION 1: RUN COMMANDBOX

- ▶ Full installer (GUI or console)
 - ▶ CF: for Windows, MacOS, Linux, Solaris
 - ▶ Lucee: for Windows or Linux
- ▶ Resources
 - ▶ helpx.adobe.com/coldfusion/installing/installing-the-server-configuration.html
 - ▶ carehart.org/presentations/#installingcf2021
 - ▶ docs.lucee.org/guides/installing-lucee.html
- ▶ Can install on your own machine of course, or some other
 - ▶ In your network, on a host, in the cloud
 - ▶ Or as a vm
 - ▶ Or within WSL (Windows Subsystem for Linux, Linux within Windows)

OPTION 2: INSTALL A CFML ENGINE

- ▶ Some never want to see/run an installer, preferring automation
 - ▶ Perhaps to package/manage via solutions like Ansible, Puppet, etc.
 - ▶ Or just simply script
 - ▶ CF and Lucee have two options for that (Commandbox is inherently automatable)
- 1. Silent/unattended install
 - ▶ helpx.adobe.com/coldfusion/installing/installing-coldfusion-silently.html
 - ▶ docs.lucee.org/guides/installing-lucee/installation-linux/installing-in-unattended-mode.html
- 2. Zip “installers”, offered at download site for CF (~150mb) or Lucee (~80mb)
 - ▶ Just unzip and go, mostly
 - ▶ CF has an additional cfinstall script to be run (and supports silent install)
 - ▶ helpx.adobe.com/coldfusion/using/install-coldfusion-2021.html

BONUS TOPIC: AUTOMATE THE INSTALLER

- ▶ Another facet of automation: configuring the CFML engines (other than with Admin)
- ▶ Commandbox offers server.json file (“app” section), cfconfig tool, env vars
 - ▶ commandbox.ortusbooks.com/embedded-server/server.json
 - ▶ cfconfig.ortusbooks.com
 - ▶ commandbox.ortusbooks.com/embedded-server/configuring-your-server/env-var-overrides
- ▶ CF2021 and up offers cfsetup tool
 - ▶ helpx.adobe.com/coldfusion/using/cfsetup-configuration-tool.html
 - ▶ carehart.org/presentations/#cfsetup_tool
- ▶ Lucee offers extended configurability via application.cfc or cfadmin tag
 - ▶ docs.lucee.org/guides/cookbooks/configuration-administrator-cfc.html
- ▶ Docker images (all 3 kinds) offer environment variables (more in a moment)

BONUS TOPIC: ADMIN CONFIGURATION

- ▶ CF zip install is small, core engine, can optionally add “modules” as needed
 - ▶ Can also add/remove modules from full install (defaults to all modules)
 - ▶ Can be done either via CF admin, cfpm tool, or env vars (for docker images)
 - ▶ helpx.adobe.com/coldfusion/using/coldfusion-package-manager.html
- ▶ Lucee has similar extensions feature (from within Lucee Admin)
 - ▶ docs.lucee.org/guides/extensions.html
 - ▶ And offers a “Lucee light” jar which has no extensions (about 20 mb)

BONUS TOPIC: MODULARITY

- ▶ Referring here to full installer (with other options coming up, is very easy)
- ▶ You CAN in fact run more than one CF version at a time
 - ▶ Installer for each version creates new folder, new service (with name of version)
 - ▶ If you have old one running during new one's installer, new one gets new CF ports
 - ▶ On first launch of CF Admin, CF even offers option to import old Admin settings
- ▶ In order to run both at same time, do need to have suitable machine resources
- ▶ A common challenge is the web server connector configuration
 - ▶ Current sites likely are pointed to the old CF version
 - ▶ Would need to use the old version's wsconfig to remove those to be changed
 - ▶ Then could run the new version's wsconfig to point site(s) to new CF version

BONUS TOPIC: RUNNING MORE THAN ONE CF VERSION AT A TIME

- ▶ CFBuilder 2018 offers an option to install CF, implemented WITHIN CFB folder
 - ▶ helpx.adobe.com/coldfusion/using-coldfusion-builder/bundled-coldfusion-server.html
- ▶ CF2016 had an “express” installer also (which wasn’t modular like CF2021)
 - ▶ helpx.adobe.com/coldfusion/installing/installing-coldfusion-express.html

OPTION 2A: ODD-BALL CF INSTALLERS

- ▶ Even here, many options:
 - ▶ Commandbox has CF and Lucee images
 - ▶ Adobe has own CF images (for CF2023, 2021, and 2018, and before that cf2016)
 - ▶ Lucee has own images
- ▶ (Though often referred to as “Docker images”, can be used beyond Docker)
- ▶ Each offers configurability via environment vars (which vary by provider)
- ▶ Resources
 - ▶ hub.docker.com (offers all 3 variants)
 - ▶ helpx.adobe.com/coldfusion/using/docker-images-coldfusion.html
 - ▶ carehart.org/presentations/#comparing_cf_docker_alternatives
 - ▶ carehart.org/presentations/#cfdocker_gs

OPTION 3: CONTAINERIZE CFML

- ▶ Neither Adobe nor Lucee formally support deploying CFML onto serverless
- ▶ For Lucee, Pete Freitag (et al) offers the Fuseless project (*fuseless.org*)
 - ▶ For deploying CFML apps via Lucee on AWS Lambda
 - ▶ Using Lucee light jar, and some additional magic
 - ▶ Doesn't currently support deployment via CF
- ▶ As for Adobe, at launch of CF2021 they offered AWS Lambda deployment
 - ▶ But then quickly removed it, without explanation (probably about pricing)
 - ▶ Then “returned” it—but only in that CF could CALL lambda functions
 - ▶ *helpx.adobe.com/coldfusion/using/get-started-aws-lambda.html*

OPTION 3A: SERVERLESS DEPLOYMENT

- ▶ Useful for deploying CF (and CFML apps) on Java app servers/servlet engines
 - ▶ Tomcat, Jetty, Glassfish, Weblogic, Websphere, etc.
 - ▶ Azure App Service is based on deploying WARs
 - ▶ What are WAR and EAR files?
- ▶ CF offers multiple ways to obtain/create WAR or EAR files
 - ▶ Download them
 - ▶ Build one via CF installer
 - ▶ Create them from within the CF Admin
 - ▶ helpx.adobe.com/coldfusion/installing/installing-the-jee-configuration.html
- ▶ Lucee offers WAR for each build at download.lucee.org
 - ▶ docs.lucee.org/guides/installing-lucee/osx/installing-tomcat-and-lucee-on-os-x-using-the-lucee-war-file.html
 - ▶ Lucee even offers a jar-only option at its downloads page

OPTION 4: DEPLOY CFML VIA WAR/EAR FILES

- ▶ Running code requires some web server
 - ▶ CF and Lucee both have a built-in web server (biws)
 - ▶ Used primarily for Admin, but can be used to run your CFML (yes, even for prod)
- ▶ Some will want to front CF with an external web server (IIS, Apache, etc)
 - ▶ CF wsconfig tool
 - ▶ Lucee mod_cfml tool
 - ▶ Boncode IIS connector tool (for Lucee or CF)
- ▶ Forwarding to biws (skips use of AJP, which underlies the 3 tools above)
 - ▶ Can be done from web servers like nginx, apache, etc (even IIS with ARR)
 - ▶ Also from load balancers/ingress controllers, like HAProxy, Traefik, etc

BONUS TOPIC: WEB SERVER INTEGRATION

- ▶ Some folks (even in year 2023) still have **only** production, edit against that
 - ▶ To be highly discouraged, for so many reasons
- ▶ Please consider one of these options to deploy CFML engine in development
 - ▶ Again can be local machine or remote (or host, cloud, VM, container, etc.)
- ▶ Similarly, some may have dev (local) and prod (elsewhere)
 - ▶ Consider value of having test platform between those
- ▶ CF licensing:
 - ▶ Development edition is free
 - ▶ Test/Stage/QA can be free, depending on Enterprise vs Standard license
 - ▶ Containers: coldfusion.adobe.com/2019/03/coldfusion-licensing-docker-containers/

BONUS TOPIC: DEV VS PROD

- ▶ Can also run CFML entirely online/no-install-at-all via CFML “fiddles”
 - ▶ cffiddle.org
 - ▶ trycf.com
- ▶ Can also run CFML via CLI/REPL (even here, many options)
 - ▶ Via Commandbox
 - ▶ Via CF CLI (released in CF2016, updated in CF2018)
 - ▶ helpx.adobe.com/coldfusion/using/command-line-interface.html
 - ▶ Via Lucee CLI
 - ▶ docs.lucee.org/guides/Various/command-line-interface.html

HONORABLE MENTION TOOLS

- ▶ I've offered links throughout
 - ▶ Each topic has ample docs, whether from Adobe or others; or blog posts, presos, etc.
- ▶ Consider also leaning on the community, where there are several options
 - ▶ See my list of them at cf411.com/cfcommhelp
- ▶ I'm available to help, free for quick questions, or on consulting basis (fast, short)

RESOURCES FOR MORE

- ▶ So many ways to deploy (or test) CFML
- ▶ Some involve “installing”, but many do not
 - ▶ Many can be done on other than your own machine
 - ▶ Some don’t even require ANY “machine” that you control or pay for
- ▶ Some may be approaches new to you (zip, Commandbox, containers, WAR files)
 - ▶ Good to know all the options, to pick the best for each situation
- ▶ Goal today was to make some folks more aware of them
 - ▶ I’ve given you the push, now ride on!

SUMMARY