

# HIDDEN GEMS IN COLDFUSION 2018



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- ▶ First up, hidden gems in many areas:
  - ▶ Installation, administration, configuration, and security
  - ▶ Performance improvements, and new monitoring tool (PMT)
  - ▶ Developer-oriented features and language changes
- ▶ Then other topics you should also consider:
  - ▶ Compatibility/migration issues
  - ▶ Updates to underlying libraries (their version numbers)
  - ▶ What's new in Standard vs Enterprise
  - ▶ Pricing, end of life/support, licensing
  - ▶ And still more, including CFBuilder 2018
- ▶ Wrapping up with what's changed per recent CF2018 updates
- ▶ So much more than just “what's new in CF2018”

# TOPICS

- ▶ So much to cover in this session
  - ▶ Will be just quick discussion of each point, with pointers to much more info
  - ▶ Just want you to be aware of the opps and issues, to look into later
- ▶ Slides available online for you now or later:
  - ▶ [carehart.org/presentations](https://carehart.org/presentations)
  - ▶ I also provide there [a document with links for more info on every topic in preso](#)
- ▶ I've also created blog posts with more info on nearly every point
  - ▶ See my links doc for the URLs
  - ▶ Currently 5 parts, from admin to language changes. 3 remaining parts planned

- ▶ At CF2018 launch, Adobe offered several **blog posts**
  - ▶ See my post listing them just after launch, offered in links document
- ▶ Also, several CF Summit sessions by Adobe on CF2018
  - ▶ They go into MUCH more depth on many of the topics I'll only mention
  - ▶ **Slides available** for most of their presentations. See my links docs
- ▶ And of course the **CF docs, release notes, what's new** go into things in more detail
  - ▶ Again, [see my links document](#) for links to all these
  - ▶ From now on, I won't repeat that point each slide (but will at various points, for late-comers)

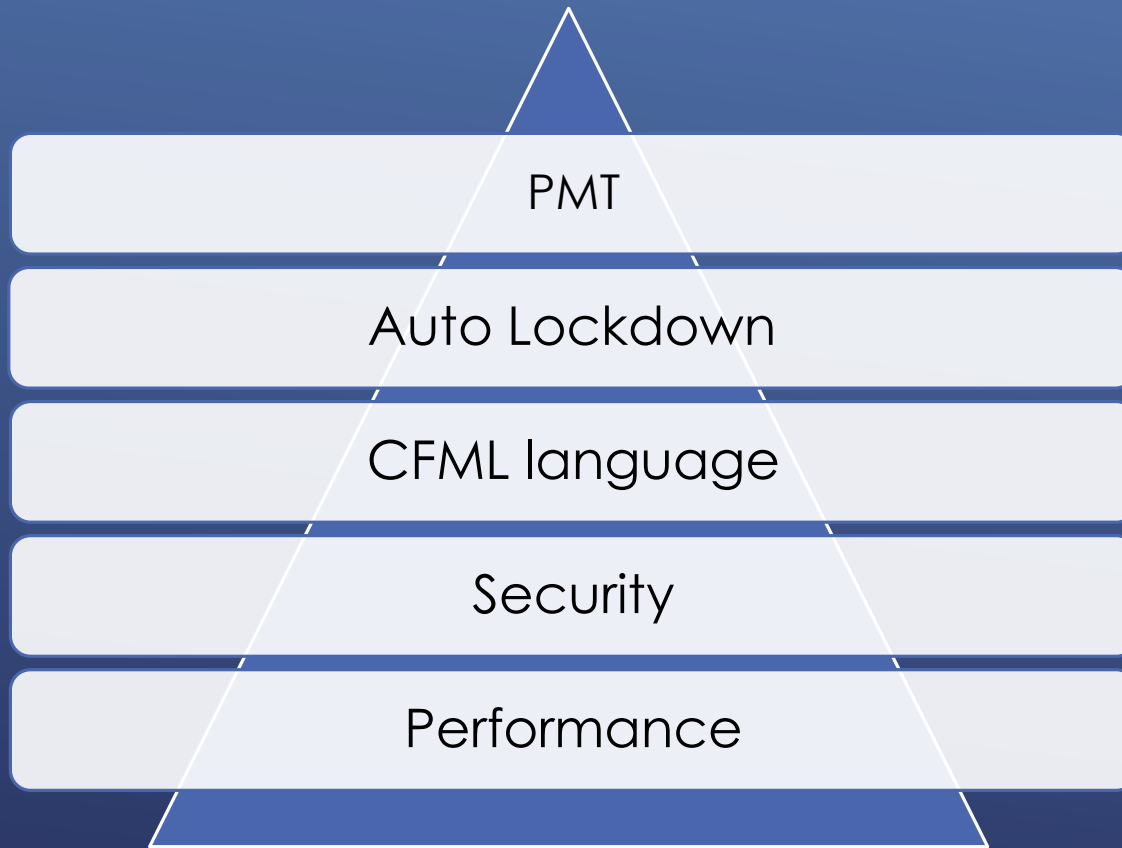
## FINDING MORE ABOUT CF2018

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- ▶ 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](http://carehart.org/consulting)
- ▶ But to be clear, I'm not selling anything in this session! 😊

# ABOUT ME

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# MAJOR FEATURES OF CF2018

- ▶ New UI for CF Admin
- ▶ Command-line REPL
- ▶ REST Playground
- ▶ New caching engines
- ▶ New language features, and more
- ▶ Not so much “hidden”, but might be missed by many
  - ▶ Will cover these and so much more

## SOME LESS NOTED FEATURES

# INSTALLATION, ADMINISTRATION, CONFIGURATION, SECURITY



- ▶ CF2018 **no longer offers 32-bit** CF installer
- ▶ Curiously, CF installer **no longer offers web server integration step**
  - ▶ Must instead run CF “**web server configuration tool**” yourself (more in a moment)
- ▶ First hidden gem: a **new CF2018 installer** was released in Feb 2019
  - ▶ More on this later

# INSTALLATION CHANGES

## ▶ Have you seen the CF 2018 Admin yet? Changed menu layout

Adobe ColdFusion 2018 Administrator Enterprise

ColdFusion Community | Search | Information | Logout

Server: cfusion

### Server Settings

Settings | Request Tuning | Caching | Client Variables | Memory Variables | Mappings | Mail | Scheduled Tasks | WebSocket | Charting | Font Management

## Hidden Gem

- Timeout Requests after seconds**   
When checked, requests that take longer than the specified time are terminated. This prevents unusually long requests from occupying server resources and impairing the performance of other requests.
- Enable HTTP status codes**  
Enables ColdFusion to set HTTP error status codes when ColdFusion errors are returned to the browser. ColdFusion sets an error status code of 404 if the template is not found and an error status code of 500 for server errors.
- Disable access to internal ColdFusion Java components**  
Disables the ability for CFML code to access and create Java objects that are part of the internal ColdFusion implementation. This prevents an unauthenticated CFML template from reading or modifying administration and configuration information for this server.
- Maximum Output Buffer size** KB  
Maximum output buffer size for each request in KB. If the output size for any request exceeds this limit, it would automatically get flushed. Under such circumstances the
- Enable Per Application Settings**  
When checked, per application settings are enabled server-wide. If unchecked, per app settings are disabled server-wide.
- Enable Whitespace Management**  
Reduces the file size of the pages that ColdFusion returns to the browser by removing many of the extra spaces, tabs, and carriage returns that ColdFusion might otherwise persist from the CFML source file.
- Preserve case for Struct keys for Serialization.**  
Maintains and preserves the case in which keys of a struct have been defined. If not checked keys will be converted to uppercase.
- Enable In-Memory File System**  
Enables the In-Memory File System support
- Use UUID for cftoken**  
Configures ColdFusion to use a UUID rather than a random number for client and session variable cftoken values. A UUID guarantees a unique identifier for the token.
- Disable CFC Type Check**  
When checked, UDF arguments of CFC type is not validated. The arguments are treated as type "ANY". Use this setting in a production environment only.
- Prefix serialized JSON with**   
Protects web services which return JSON data from cross-site scripting attacks by prefixing serialized JSON strings with a custom prefix.
- Memory Limit for In-Memory Virtual File System** MB  
Specify memory limit in MB for In-Memory Virtual File System.

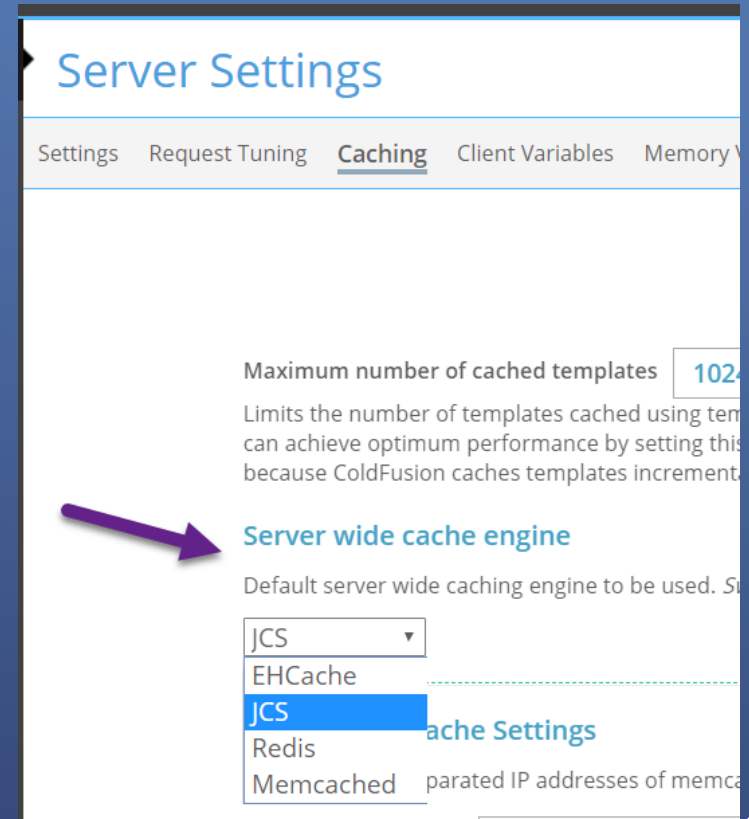
# ADMINISTRATOR CHANGES

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- ▶ CF Admin “Caching” page offers new options

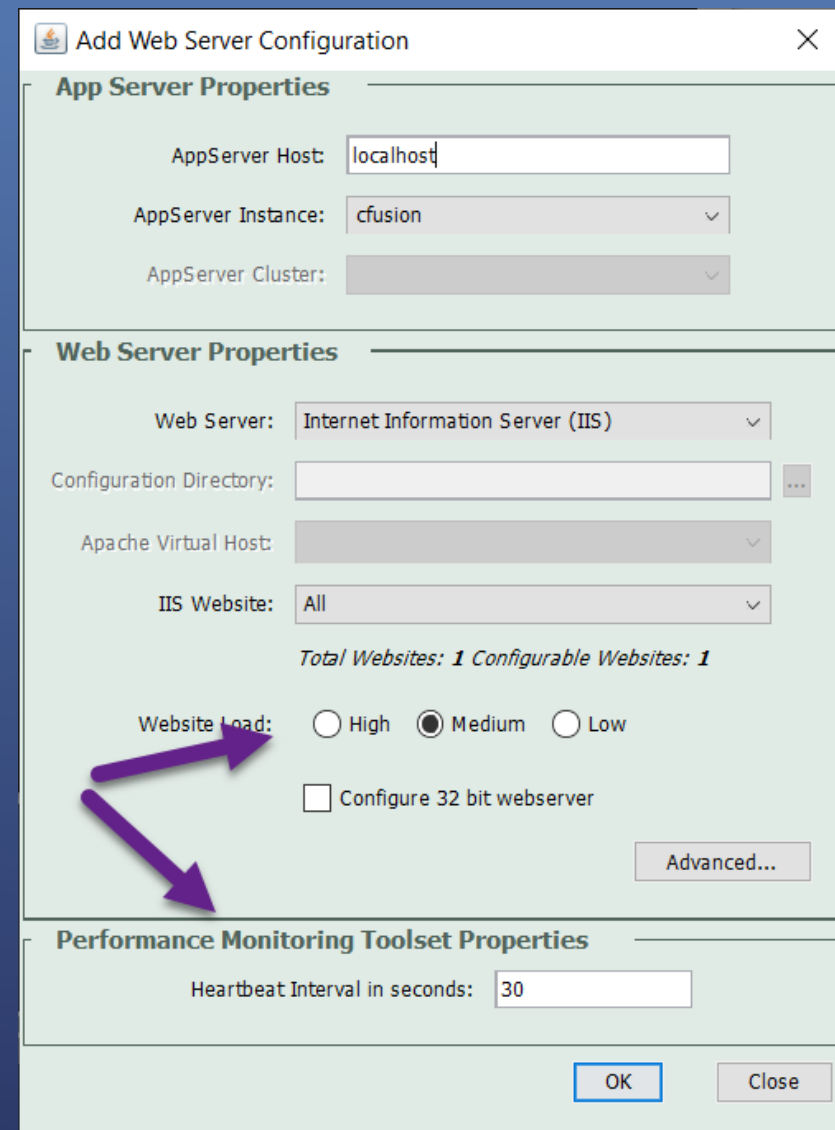
- ▶ Hidden gem:

- ▶ JCS settings in Admin offers option to store to database
- ▶ Can also configure caching engine at app-level, overriding admin default



## NEW CACHING OPTIONS

- ▶ Wsconfig UI enhancements in CF2018
- ▶ Related: CF2018 PMT adds new connector **auto-tuning** (more on PMT later)



# WEB SERVER CONFIG TOOL (WSCONFIG) CHANGES

- ▶ CF2018 was released with Java 10 (previous CF releases came Java 8 or earlier)
- ▶ Support for **Java 11 was added in CF2018 Update 2**, in Feb 2019 (more later)
  - ▶ Also added for CF2016, per its update 8 or later
  - ▶ CF11 was not changed to support Java 11
- ▶ As a reminder, I have [a page with links to more info on all topics in preso](#)
  - ▶ Available, along with these slides, at [carehart.org/presentations](http://carehart.org/presentations)

# JAVA-RELATED CONFIG CHANGES

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- ▶ CF has long had a lockdown guide
  - ▶ CF2018 adds **new (optional) auto-lockdown tool**
- ▶ Available for Windows and Linux, and IIS or Apache
  - ▶ And for macOS as of CF2018 Update 2
- ▶ Note: CF2018 autolockdown **guide** walks through using auto-lockdown **tool**
- ▶ See my links doc for docs, guide, tool download, more
- ▶ ...

SECURITY: NEW AUTO LOCKDOWN TOOL

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- ▶ Hidden gems regarding Auto Lockdown tool:
  - ▶ Offers **rollback** and **uninstall** features, as well as **logs**
    - ▶ After running the tool, see [CF Home]\lockdown\ for logs and more
    - ▶ Uninstall at [CF Home]\lockdown\[Instance locked down]\Uninstall
  - ▶ Also offers **silent install** option

NEW AUTO LOCKDOWN TOOL (CONT.)

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- ▶ Previously could do only in CFSCCHEDULE
- ▶ Related changes for CFSCCHEDULE

Adobe ColdFusion (2018 Release) Developer





## Server Settings

Settings Request Tuning Caching Client Variables Memory Variables Mappings Mail Scheduled Tasks

Scheduled tasks can create static web pages from dynamic data sources. You can also schedule tasks

Schedule New Task Pause All Tasks Resume All Tasks

### Server Level Scheduled Tasks

Actions	Group	Task Name	Duration	Interval
   	default	test	Mar 5, 2019 - INDEFINITELY	2 mins 0 secs

- ▶ Maybe you're not an administrator, or don't install/configure CF often
  - ▶ The next several sections may appeal more to developers 😊

# PAUSING SCHEDULED TASKS, FINALLY

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# PERFORMANCE IMPROVEMENTS, AND NEW MONITORING TOOL (PMT)

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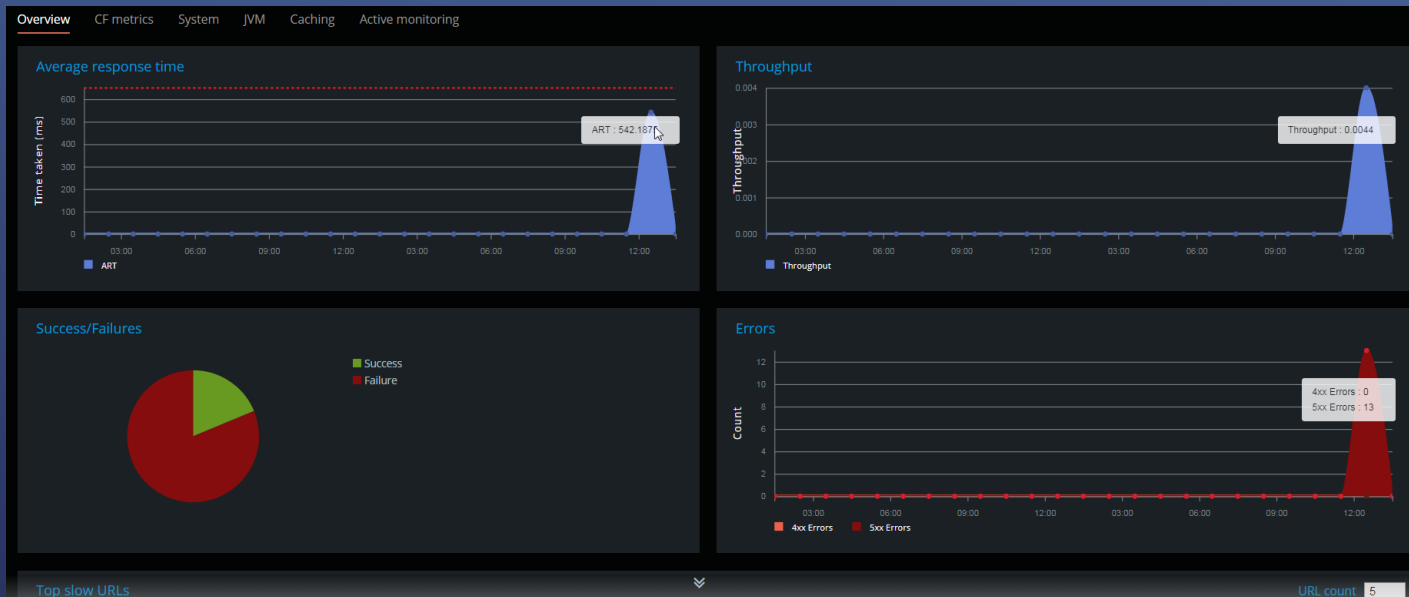
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- ▶ CF2018 offers several performance improvements
  - ▶ See **CF2018 Performance Whitepaper**, and my part 3 blog post for more

# PERFORMANCE IMPROVEMENTS

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- ▶ New monitoring solution for CF2018
  - ▶ Substantial tool, really worthy of an entire talk, indeed multiple talks
  - ▶ Screen below is just one of dozens, covering many things
  - ▶ See my links doc for MUCH more: downloading, configuring, launching. using



# PERFORMANCE MONITORING TOOLSET (PMT)

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# DEVELOPER FEATURES

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- ▶ CF2016 had added new command-line interface (CLI)
  - ▶ Accessed using cf.bat or cf.sh in cfusion/bin folder, pointing to a file
- ▶ CF2018 adds true REPL (read-eval-print-loop)
  - ▶ Use cfscript at command line (started via same cf.bat / .sh)
- ▶ CF does **not** even need to be running
- ▶ Output gets auto-printed to the console when typing...
  - ▶ an assignment, a function, or an expression evaluating to some value
- ▶ Consider also Commandbox (open source CF CLI, REPL and more)

## NEW CFML REPL

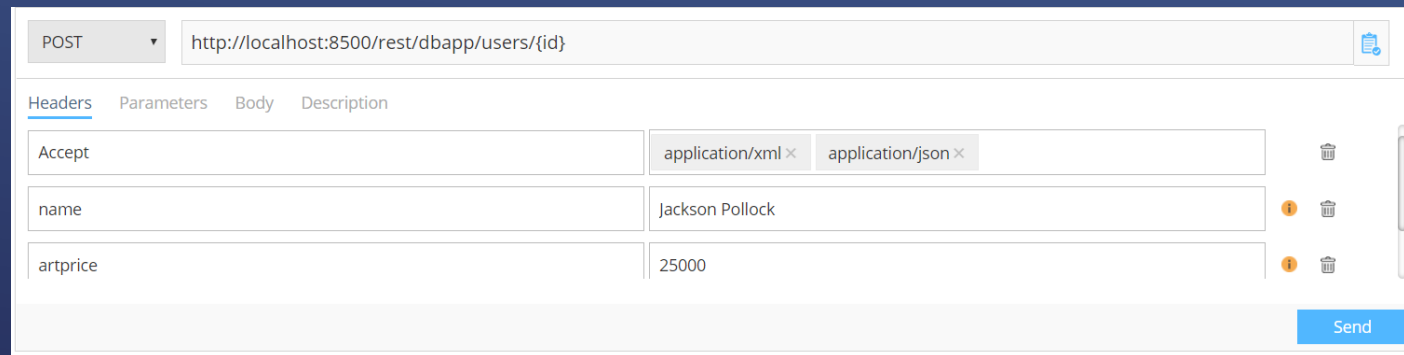
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- ▶ On topic of “trying out” code easily, consider Adobe’s **CFFiddle.org** site
  - ▶ Can choose to run CF2018 or CF2016; save scripts to share with others, and more
- ▶ Useful way to get started with “trying out” CF2018, without installing it
- ▶ Updated last year to no longer require login
- ▶ CF docs are being enhanced to leverage this for “live docs”
- ▶ Consider also a long-existing similar service: *trycf.com*

CONSIDER ALSO CFFIDDLE

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- ▶ Somewhat along the same lines...
- ▶ The CF2018 REST playground is a new way to work with CF REST services
  - ▶ Web app bundled with CF Admin, to help visualize, test, and debug them
  - ▶ Works with all REST apps registered to CF, and can be used to add REST apps to CF
  - ▶ ...



The screenshot shows the REST Playground interface for a POST request. The URL is `http://localhost:8500/rest/dbapp/users/{id}`. The 'Headers' tab is active, showing the following configuration:

Header	Value	Actions
Accept	application/xml × application/json ×	🗑️
name	Jackson Pollock	🔔 🗑️
artprice	25000	🔔 🗑️

A 'Send' button is located at the bottom right of the interface.

# REST PLAYGROUND

- ▶ Can be launched from CF Admin “REST Services” page
  - ▶ Or via URL as <hostname>:<port>/restplay (via CF’s built-in web server only)
  - ▶ Does require “developer profile” feature (added in CF2016) to be enabled

## REST PLAYGROUND (CONT.)



- ▶ Finally, still another way to facilitate development with CF: Docker images
  - ▶ If you didn't know, Adobe has released Docker images since CF2016
  - ▶ They've been updated for CF2018 (and with each of its updates)
- ▶ Let's move on to language feature gems

CONSIDER CF DOCKER IMAGES

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# LANGUAGE CHANGES

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- ▶ New language features
  - ▶ New OO language features
  - ▶ New CFML functions
  - ▶ New member functions
  - ▶ Changed language features
- 
- ▶ Many of these were covered in keynote, other sessions here
    - ▶ So I will just list them, not demonstrate each of them
    - ▶ Again, [see my links document](#) (with slides at [carehart.org/presentations](http://carehart.org/presentations))

## SEVERAL CATEGORIES

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- ▶ Null support (can be optionally enabled)
- ▶ Async feature
- ▶ Enhanced support for new operator (for CFCs, Java, web svcs, more)
- ▶ Semi-colon optional
- ▶ Named parameters
- ▶ Closures in tags (previously only in script)

## NEW LANGUAGE FEATURES

- ▶ Abstract CFCs & Methods
- ▶ Subtyping/covariant method return types
- ▶ Final variables, methods, components
- ▶ Default functions in interface

# NEW OO LANGUAGE FEATURES

- ▶ ArrayFirst, ArrayLast
- ▶ QueryDeleteColumn, QueryDeleteRow
- ▶ CacheGetEngineProperties
- ▶ RunAsync
- ▶ StructIsOrdered

## NEW CFML FUNCTIONS

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- ▶ Too many to list, but new functions for:
  - ▶ query objects
  - ▶ array objects
  - ▶ xml objects
  - ▶ async objects
  - ▶ numeric objects
  - ▶ date objects
  - ▶ As well as changes to some existing member functions

## NEW MEMBER FUNCTIONS

- ▶ Member functions can now be chained
- ▶ Arrays can be sliced
- ▶ New control for CF's auto-return of generated primary keys
  - ▶ Previously controllable only at DSN level, now at code level
  - ▶ **cfquery** attribute **disableAutoGenKeys**
  - ▶ **queryexecute**, via **disableAutoGenKeys** in queryOptions struct
- ▶ **cfchart** adds support for responsive client-side charts
  - ▶ Can specify height and width in percentages
- ▶ ...

## CHANGED LANGUAGE FEATURES

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- ▶ Array and string enhancements
  - ▶ Typed arrays
  - ▶ Array negative indexes
  - ▶ Array slices
  - ▶ Member functions now supported for string literals
- ▶ Datatype preservation: inferred at compile time, rather than runtime
  - ▶ New jvm arg to disable that
- ▶ Developers can of course leverage the new caching options discussed previously in Admin gems
- ▶ ...and that's it for language enhancements

## CHANGED LANGUAGE FEATURES (CONT.)

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# COMPATIBILITY ISSUES

- ▶ See:
  - ▶ [helpx.adobe.com/coldfusion/deprecated-features.html](https://helpx.adobe.com/coldfusion/deprecated-features.html)
- ▶ Lists some features as **deprecated** (still exist, but should not be used)
  - ▶ Most are things rarely used by most anymore (COM, DCOM, etc.)
- ▶ Does deprecate older cfc-based approaches to script tag equivalents
  - ▶ CF11 introduced a new more standard way to call any tag as script
- ▶ Also concept there of “**unsupported**” or “**removed**”
  - ▶ Only thing “removed” in CF2018 is old CF Enterprise Server Monitor
- ▶ New concept: “**retired**” (feature **not enabled by default**)
  - ▶ Some may be things rarely used by most (flash remoting, flash-based UI elements, xml forms, blazeds, lcds, AIR, CF actionscript functions, CORBA, portlets, etc.)
  - ▶ Some you may use: UI tags (more on that in a moment)
- ▶ ...

# DEPRECATED FEATURES

- ▶ Page also lists things as “removed since 11”, which worked in 2016, but no longer do
  - ▶ ***cfschedule's timeout*** attribute (used in creating a new task)
    - ▶ can add ***cfsetting requesttimeout*** to page being called (if under your control)
  - ▶ ***cfcache's cachedirectory*** and ***timeout*** attributes
  - ▶ ***cfcollection's map*** and ***repair*** values for ***action*** attribute
  - ▶ ***cferror's monitor*** and ***option*** values for ***type*** attribute
  - ▶ And more

## DEPRECATED FEATURES (CONT.)

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- ▶ Among things listed as “retired” are UI tags based on YUI javascript library
  - ▶ Includes these tags:
    - ▶ **cfmenu**, **ctfree**, **cttooltip**, **cfcalendar**, **cfinput** (**autosuggest** attribute), **cfinput** (**sourcefortooltip** attribute)
  - ▶ These will not work out of the box with 2018, but you can “enable” them
    - ▶ was also true as of CF2016 update 3 and per installer starting in Dec 2016
- ▶ To re-enable these, you just copy needed YUI library files back into CF
  - ▶ See bottom of deprecated features page
- ▶ Note: some compat-related things are NOT documented there...

## DOCUMENTED ISSUE: YUI-BASED TAGS

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- ▶ Watch out: newly **reserved words** (*discussed on another page in docs*)
  - ▶ As part of the new OO support: **abstract**, **function** and **final**
  - ▶ And **null**, if null support enabled
- ▶ If you have code using those as variables, etc., will have conflicts/errors
  - ▶ You may think you don't use these, but frameworks might
  - ▶ ColdSpring does use both abstract and function as variables (as in `coldspring\oop\framework\AopProxyUtils.cfc`)
- ▶ You must carefully find and replace those variable names, properties
  - ▶ May not want to do global replace, as you may have text that shouldn't be replaced
  - ▶ Could just run through code and fix those which get errors, but that's risky, too
  
- ▶ Potential trap...

## NEWLY RESERVED WORDS

- ▶ Also, though not listed on those pages, I found also that:
  - ▶ **cfqueryparam/cfprocparam** fail if undocumented **cfsqltype** abbreviation used
    - ▶ **CF\_SQL\_int** should instead be **CF\_SQL\_integer**
    - ▶ **CF\_SQL\_DateTime** should be **CF\_SQL\_date**, **\_time**, or **\_timestamp**
    - ▶ **CF\_SQL\_Num** should be **CF\_SQL\_Numeric**
    - ▶ *And so on*
  - ▶ **cfsocialplugin** failed if width attribute specified
- ▶ Beware: CF2018 changed caching so that region names are app-specific
  - ▶ Could also lead CF2018 to use more heap, in some situations
  - ▶ See my comments at CF tracker: [CF-4203636](#)
- ▶ Related to all this, let's talk about other migration issues...

## UNDOCUMENTED CHANGES?

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- ▶ The PMT (monitoring tool) should have zero impact on CF, of course
- ▶ But there was one issue affecting cfthrad processing
  - ▶ This was fixed by an update to the PMT, with CF2018 Update 2
  - ▶ But you must apply that update manually! More later
- ▶ Some have complained of “blank pages”, which they feel is fixed by setting “heartbeat interval” (in wsconfig, for PMT) to 0

## UNEXPECTED PMT PROBLEMS

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- ▶ With each version, there may be compat issues depending on your starting point
  - ▶ If you jump to 2018, skipping CF2016, 11, or 10, there are compat issues each had
  - ▶ I've discussed these more in my "hidden gems" talks for each past CF version
    - ▶ [carehart.org/presentations](http://carehart.org/presentations)
- ▶ Here's a quick review of key compat features for each...

## COMPATIBILITY/MIGRATION ISSUES

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- ▶ CF 10 removed Verity search engine, replaced with Solr
- ▶ Web services changed to support version 2, can change back to v1
  - ▶ See Admin-, application-, and code-level options to change wsversion, etc
- ▶ Can no longer run JSPs via external web server, but web server only
- ▶ So not too many issues (but the move to CF on Tomcat affected config issues)
- ▶ Again, these issues would apply to you on move to CF2018 skipping 10/11/2016

## CF 10 COMPATIBILITY/MIGRATION ISSUES

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- ▶ As for CF11, more compat issues than in CF10 or 2016
- ▶ CF11 update 11 broke any use of an /api folder off the root of your site
  - ▶ CF now uses that (like /rest folder) for REST feature
  - ▶ If you will never use that CF REST feature, could tweak/remove config file references to /api:
    - ▶ [cf]\cfusion\wwwroot\WEB-INF\web.xml (and [cf]\config\wsconfig\[n]\uriworkermap.properties)
- ▶ CFCHART removed use of XML to configure charts--now must pass json
  - ▶ Tool to help: cfusion/bin/cfchart\_xmltojson (bat/sh)
- ▶ ...

## CF 11 COMPATIBILITY/MIGRATION ISSUES

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- ▶ New strict number validation: if true (default), results of numeric validations (in tags, functions, return from methods) fail if value is not truly numeric
  - ▶ Settable in cfapplication or application.cfc: strictNumberValidation
- ▶ Good news: things formerly Enterprise-only ARE now available in Standard
  - ▶ CF archive (car) mechanism (to move CF admin settings from server to server)
  - ▶ Security Sandbox (to lockdown what code in different directories can do)
  - ▶ HTML5 charts
  - ▶ Web socket limit lifted

## CF11 COMPATIBILITY/MIGRATION ISSUES (CONT.)

- ▶ Bad news: CF11 Update 3 re-enabled long-dormant CFProcparam **DBVARNAME**
  - ▶ Had been ignored since CF6, except briefly in 7.0.1
  - ▶ Problem: some DBs now require prefix to dbvarname value
    - ▶ ( “:” for Oracle and “@” for SQLServer)
  - ▶ You may have old code that just says dbvarname = “param1” which would now fail
    - ▶ For SQL Server, should be dbvarname = “@param1”, for instance
  - ▶ Note: a jvm arg was added then to revert this, but it is NOT supported in CF2016 and above
  - ▶ *blogs.coldfusion.com/coldfusion-11-and-dbvarname-attribute/*
- ▶ Again, **these issues would apply** in move to CF2018, if skipping 11 and 2016

## CF11 COMPATIBILITY/MIGRATION ISSUES (CONT.)

- ▶ CF2016 compat Issues are very few
  - ▶ CFCollection ignores PATH attribute, uses path defined in CF Admin
  - ▶ MS Access: workarounds from 10/11 to enable it no longer work
  - ▶ The aforementioned removal of YUI, spry, portlets libraries in CF2016 Update 3
- ▶ But see also licensing changes in the EULA about cores, VMs, and staging/test
- ▶ As for that point about staging/test
  - ▶ Since CF9, we could use a production license in a test, staging, or central dev instance
  - ▶ CF2016 EULA (Section 3.2) seems to read that for each Enterprise license bought, you can use it that way; but for Standard, it's only if two licenses have been bought
  - ▶ Developer \*edition\* remains free, of course
- ▶ These issues would apply to you on move to CF2018 skipping 2016
  - ▶ Clearly, CF11 had more compat issues either than 10 or 2016

## CF2016 COMPATIBILITY/MIGRATION ISSUES

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- ▶ See also known issues discussions in CF2018 release notes, and in each update
  - ▶ We will discuss CF2018 updates shortly
- ▶ Recall the new datatype inference at compile time, which can be disabled

## OTHER COMPAT ISSUES

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# OTHER HIDDEN GEMS

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- ▶ Just a few areas remain...
  - ▶ Updates to underlying libraries' versions numbers
  - ▶ What's new in Standard vs Enterprise
  - ▶ Pricing, licensing, end of life/support
  - ▶ CF Builder 2018 enhancements
  - ▶ Updates to CF2018 since initial release

OTHER HIDDEN GEMS

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- ▶ Antismy 1.5.7 (OWASP security library)
- ▶ Derby 10.11 (embedded DB)
- ▶ Ehcache 2.10.3 (caching library)
- ▶ Esapi 2.1.0 (OWASP Enterprise Security API)
- ▶ Hibernate 5.2.11 (ORM library)
- ▶ HttpClient 4.5.2 (underlies CFHTTP and more)
- ▶ Java 10.0.1 (the JVM which underlies CF)
- ▶ Jetty 9.3.6 (underlies Solr and PDFg)
- ▶ jQuery 3.1.1 and jQuery UI 1.12.1 (JS library which underlies various UI tags and Admin interface features)
- ▶ Lucene 6.6 (underlies Solr search engine in CF)
- ▶ POI 3.7 (underlies MS Office Integration features)
- ▶ Solr 7.2.1 (the embedded search engine, used by CFSEARCH/CFINDEX, etc.)
- ▶ Tomcat 9.0.10 (app server underlying CF, when deployed in traditional "Server" configuration)

See later discussion of further version changes, per CF updates

## UPDATES TO SOME UNDERLYING LIBRARIES' VERSIONS NUMBERS

- ▶ Only thing **new** that is Enterprise-only is distributed caching
  - ▶ redis and memcached options
  - ▶ Again, Standard support long-standing ehCache **and** the new JCS option
- ▶ The CF2018 perf. whitepaper also says “web server path caching” is Ent-only
  - ▶ But it’s not a new feature (has been there for many releases)
  - ▶ And I see the option in the CF2018 Standard Admin Caching page
- ▶ LET ME BE CLEAR: **I am NOT saying these are ONLY difference between CF2018 Standard and Enterprise**
  - ▶ I’m saying these are only things NEW in 2018 that ARE Enterprise-only
- ▶ For more on differences between CF Std and Ent:
  - ▶ [adobe.com/products/coldfusion-standard/buying-guide.html](https://adobe.com/products/coldfusion-standard/buying-guide.html)

## STANDARD VS ENTERPRISE

- ▶ And now, the shoe drops. The price of CF2018 has increased:
  - ▶ Standard: US\$ 2,499 (per 2 cores)
  - ▶ Enterprise US\$ 9,499 (per 8 cores)
- ▶ Upgrade discount for those on CF2016 (none for those on CF11 or earlier)
- ▶ Consider buying CF from resellers, for still more discounts
  - ▶ *buy-adobe-software.com* (from makers of FusionReactor)
  
- ▶ And what if you may still want to buy CF2016 only?

# PRICING

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- ▶ First, can no longer access CF2016 installers on Adobe public CF site
  - ▶ Look instead to *cfmlrepo.com* (community-run site)
- ▶ Can't even license CF2016 anymore
  - ▶ Must buy CF2018 (if from Adobe, only via "volume licensing")
    - ▶ and then request "**backward license**" to CF2016
  - ▶ *blogs.coldfusion.com/post.cfm/adobe-coldfusion-backward-licensing*
- ▶ Good news: if CF2016 bought from a reseller, that CAN be backward-licensed

## WHAT IF YOU STILL WANT CF2016?

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- ▶ When does public support (providing updates) end, for each recent version?
  - ▶ For CF2018, in 2023
  - ▶ For CF2016, in 2021
  - ▶ For CF11, in Apr 2019

END OF LIFE/SUPPORT OF VERSIONS

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- ▶ No real difference from CF2016
- ▶ More:
  - ▶ [adobe.com/content/dam/acom/en/legal/licenses-terms/pdf/ColdFusion.pdf](https://adobe.com/content/dam/acom/en/legal/licenses-terms/pdf/ColdFusion.pdf)
- ▶ ...ok, onto last changed “feature”: what about CFBuilder 2018?

## LICENSING ISSUES (EULA)

- ▶ Built-in FTP support
  - ▶ Window>Show View>Other>Remote Systems
  - ▶ in previous releases, you'd have to know to get it, Remote Systems Explorer
  - ▶ [helpx.adobe.com/coldfusion/using-coldfusion-builder/managing-servers.html#remote](https://helpx.adobe.com/coldfusion/using-coldfusion-builder/managing-servers.html#remote)
- ▶ Asserted to load large files faster, and use less memory
- ▶ Support to import code profiler data from PMT
  - ▶ [helpx.adobe.com/coldfusion/using-coldfusion-builder/managing-projects.html#profiler](https://helpx.adobe.com/coldfusion/using-coldfusion-builder/managing-projects.html#profiler)
- ▶ ...

# CFBUILDER 2018 IMPROVEMENTS

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- ▶ Cordova replaces Phonegap
  - ▶ [helpx.adobe.com/coldfusion/mobile-application-development/packaging-mobile-applications.html](https://helpx.adobe.com/coldfusion/mobile-application-development/packaging-mobile-applications.html)
- ▶ Standalone edition now built upon Eclipse Oxygen 4.7.2
- ▶ More:
  - ▶ [helpx.adobe.com/coldfusion/using-coldfusion-builder/whats-new-in-coldfusion-builder.html](https://helpx.adobe.com/coldfusion/using-coldfusion-builder/whats-new-in-coldfusion-builder.html)
- ▶ CFBuilder 2018 update 1 released along with CF2018 Update 2
  - ▶ Includes many bug fixes, updates Eclipse to SimRel (<https://wiki.eclipse.org/SimRel/Overview>)
  - ▶ Incorporates Builder aspects of Update 2 changes, related to mobile dev and PMT profiler
  - ▶ [helpx.adobe.com/coldfusion/kb/coldfusion-builder-2018-update-1.html](https://helpx.adobe.com/coldfusion/kb/coldfusion-builder-2018-update-1.html)

## CFBUILDER 2018 IMPROVEMENTS (CONT.)

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- ▶ Finally, let's talk about CF 2018 updates
  - ▶ Update 1 released in Sep 2018
  - ▶ Update 2 released in Feb 2019
  - ▶ Update 3 released in Mar 2019
  - ▶ We will address these in reverse chrono order

# WHAT'S CHANGED PER CF2018 UPDATES?

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- ▶ Update 3 primarily only addressed an urgent security alert
  - ▶ More details in links offered in my links document

UPDATE 3 (MAR 2019)

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- ▶ Like most updates, Update 2 adds important security update (priority 2)
  - ▶ Also, important bug fixes in security, language, core runtime, document management, AJAX, and more
- ▶ But also adds **much** more than just bug fixes and security patches
- ▶ To start, again update 2:
  - ▶ **adds support for Java 11** (CF2018 originally came on Java 10)
  - ▶ offers a macOS installer for Server Auto-Lockdown
- ▶ Web server connector is updated (from version 1.2.41 to 1.2.46)
  - ▶ Can use “upgrade” button in wsconfig UI to update the connector
- ▶ ...

## UPDATE 2 (FEB 2019)

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- ▶ Update 2 also adds new platform support:

OS's	Application Servers	Web Servers	Databases	External Services
<ul style="list-style-type: none"><li>• Windows Server 2019</li><li>• Solaris 11.3</li><li>• OSX 10.14</li></ul>	<ul style="list-style-type: none"><li>• WildFly 14.0</li><li>• WebSphere 9.0.0.9</li></ul>	<ul style="list-style-type: none"><li>• Apache HTTPD 2.4.37</li></ul>	<ul style="list-style-type: none"><li>• Oracle 18c</li><li>• PostgreSQL 11</li><li>• IBM DB2 v11.1</li><li>• Apache Derby-10.14.2</li></ul>	<ul style="list-style-type: none"><li>• Microsoft Exchange 2016</li><li>• Microsoft SharePoint 2016</li></ul>

- ▶ Adds new features in PMT (and fixes https and PMT issues)
  - ▶ [helpx.adobe.com/coldfusion/performance-monitoring-toolset/performance-monitoring-toolset-update-1.html](https://helpx.adobe.com/coldfusion/performance-monitoring-toolset/performance-monitoring-toolset-update-1.html)
  - ▶ [coldfusion.adobe.com/2019/03/running-cf-2018-pmt-manually-applied-recent-update/](https://coldfusion.adobe.com/2019/03/running-cf-2018-pmt-manually-applied-recent-update/)
- ▶ Now, let's move on to language-oriented changes in update 2 ...

## UPDATE 2 (CONT.)

- ▶ Adds new create and modify actions for cfschedule action
  - ▶ Previously, we used action="update" to add OR update a task
  - ▶ Create is ONLY to add a task, and will fail if it exists
  - ▶ Modify action is ONLY to modify, will fail if it does not exist
- ▶ Adds new cfloop as script, as alternative to traditional script looping
  - ▶ For looping over query, array, list, or struct
  - ▶ Live demo:
    - ▶ [cffiddle.org/app/file?filepath=368f3754-a8d7-42b3-b385-0bd7db9fddef/d9a31ed2-7c4d-4df0-9e15-95059f170c77/038514fc-f536-4b25-bad4-3c94e2f58674.cfm](http://cffiddle.org/app/file?filepath=368f3754-a8d7-42b3-b385-0bd7db9fddef/d9a31ed2-7c4d-4df0-9e15-95059f170c77/038514fc-f536-4b25-bad4-3c94e2f58674.cfm)
  - ▶ See update release notes link for more
- ▶ Adds calendar arg to dayofweek function ("Gregorian" or "ISO")
- ▶ Adds new capabilities to mobile development (which came out in CF11)
- ▶ ...

## UPDATE 2 (CONT.)

- ▶ Also updates some library versions:
  - ▶ Jetty 9.4.12
  - ▶ ExtJS 6.6.0.258 for AJAX UI components
  - ▶ JPedal 8.6.2 for Document Management
  - ▶ PDFgServlet 9.4.12
- ▶ Again, the PMT gets an update with update 2, to be applied manually
- ▶ Remember also extra step for update, if autolockdown is applied
  - ▶ See update release notes for more
- ▶ ...

## UPDATE 2 (CONT.)

- ▶ CF2018 Installer refreshed, when Update 2 was released
  - ▶ Includes update 2 as well as java 11.0.1
  - ▶ Still incumbent on you to update to update 2, or Java 11.0.2, or later
- ▶ Also makes some small changes
  - ▶ CF Admin debug ip addresses page adds "::1" (ipv6 version of 127.0.0.1, already there)
  - ▶ Preconfigures `packetSize="65535"` for AJP connector in `server.xml` (previously not there)
- ▶ You can tell version, at least of Windows installer, by file "properties"
  - ▶ Whose "details" tab shows "file version" of 2018.0.2 or new, 2018.0.0 for original
- ▶ [coldfusion.adobe.com/2019/04/refreshed-cf2018-installer-includes-java-11/](https://coldfusion.adobe.com/2019/04/refreshed-cf2018-installer-includes-java-11/)
- ▶ ...Finally, onto what update 1 had introduced...

# INSTALLER REFRESHED



- ▶ Update 1 added only one new “feature”
  - ▶ New **GetCanonicalPath** function
    - ▶ Was also added to CF2016 and 11 per their updates released at the same time
  - ▶ Bug fixes
  - ▶ Tomcat updated to 9.0.10
- ▶ One challenge: the update icon in top right (starburst, showing number of updates) does NOT work as of base CF2018 version
  - ▶ Just leaves you on whatever page you are already on
  - ▶ Instead, use “updates” icon/menu item on bottom left of Admin
- ▶ Still other things to be aware of about update 1...

## UPDATE 1 (SEP 2018)

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- ▶ Potential trap: update 1 adds **packetsize** to server.xml for the ajp and http “connector” xml elements
  - ▶ Someone complained they had already added that, and the update just added it again, making it a dupe and this preventing thus CF coming up!
    - ▶ And the server.xml file did NOT get backed up in the hf-updates folder
  - ▶ Mentioned now in “known issues” section of bugs fixed page for update
    - ▶ [helpx.adobe.com/coldfusion/kb/bugs-fixed-coldfusion-2018-update-1.html](https://helpx.adobe.com/coldfusion/kb/bugs-fixed-coldfusion-2018-update-1.html)
- ▶ Remember also extra step for update, if autolockdown is applied
  - ▶ See update release note for more
- ▶ More:
  - ▶ [helpx.adobe.com/coldfusion/kb/coldfusion-2018-update-1.html](https://helpx.adobe.com/coldfusion/kb/coldfusion-2018-update-1.html)

## UPDATE 1 (CONT.)

- ▶ Lists of updates, links to technotes, and offers jar download links
  - ▶ [helpx.adobe.com/coldfusion/kb/coldfusion-2018-updates.html](https://helpx.adobe.com/coldfusion/kb/coldfusion-2018-updates.html)
- ▶ Also available for CF 2016, 11 and 10:
  - ▶ [helpx.adobe.com/coldfusion/kb/coldfusion-2016-updates.html](https://helpx.adobe.com/coldfusion/kb/coldfusion-2016-updates.html)
  - ▶ [helpx.adobe.com/coldfusion/kb/coldfusion-11-updates.html](https://helpx.adobe.com/coldfusion/kb/coldfusion-11-updates.html)
  - ▶ [helpx.adobe.com/coldfusion/kb/coldfusion-10-updates.html](https://helpx.adobe.com/coldfusion/kb/coldfusion-10-updates.html)
- ▶ Again, updates are cumulative, **need only apply latest!**
- ▶ If you have troubles applying CF updates in 10/11/2016/18, see my blog post:
  - ▶ [carehart.org/blog/client/index.cfm/2016/9/6/solve\\_common\\_problems\\_with\\_CF\\_updates\\_in\\_10\\_and\\_above](https://carehart.org/blog/client/index.cfm/2016/9/6/solve_common_problems_with_CF_updates_in_10_and_above)
  - ▶ [coldfusion.adobe.com/2019/03/problems-applying-cf-update-check-first/](https://coldfusion.adobe.com/2019/03/problems-applying-cf-update-check-first/)

...we're almost done...

# SINGLE PAGE LISTING ALL CF2018 UPDATES

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- ▶ Note that CF Docker images are also updated with each update
  - ▶ [bintray.com/eaps/coldfusion/cf:coldfusion/#release](https://bintray.com/eaps/coldfusion/cf:coldfusion/#release)
- ▶ And that...is...it!

# ADOBE CF DOCKER IMAGE UPDATED

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- ▶ So, lots of changes, right?
  - ▶ I count nearly 100 (major and minor)
- ▶ Hope you may be more motivated—and informed—to consider CF2018
  - ▶ To understand if and how it may work for you
  - ▶ Or at least where things stand regarding it as of now
- ▶ Again, my contact info for follow-up:
  - ▶ Charlie Arehart
  - ▶ [charlie@carehart.org](mailto:charlie@carehart.org)
  - ▶ @carehart (Tw, Fb, Li, Slack, Skype, GitHub)
  - ▶ Slides, links document: [carehart.org/presentations](http://carehart.org/presentations)

## SUMMARY