

HIDDEN GEMS IN FUSIONREACTOR

FOR BOXLANG, CF, AND LUCEE USERS



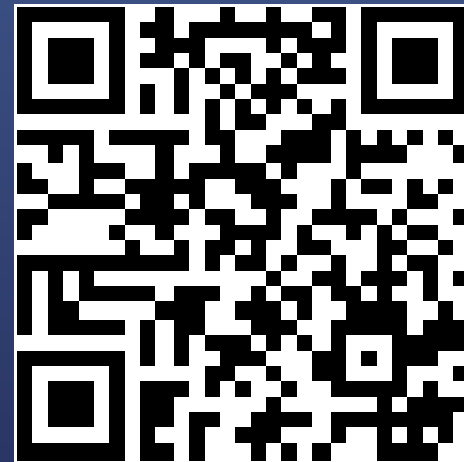
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- ▶ Updated Apr 8, 2025

Slide deck:
carehart.org/presentations



- ▶ Whether you're long-time FR user or fairly new; using an old or a new version...
 - ▶ So many “hidden gems” in the tool can help you
- ▶ Some are settings, some are features
 - ▶ Most apply to ANY CFML engine or Java app/app server
- ▶ Focus today is on “on-prem” UI, not FR Cloud
- ▶ Again, slides for talk available online:
 - ▶ carehart.org/presentations



INTRO

- ▶ FR's time machine—see what happened BEFORE a restart
- ▶ Accessing FR from “off server” (for better or worse)
- ▶ Reports to wow the boss (or your team/yourself)
- ▶ Alerts that are not “just more noise”
- ▶ Other helpful features you could miss
- ▶ Config options that might delight you
- ▶ UI elements you could easily miss
- ▶ Some recent new features you may have missed
- ▶ Resources you might never have noticed

TOPICS

- ▶ Been using, writing/speaking about CF since its earliest versions
- ▶ 20 years focused on CF server troubleshooting, as an independent consultant
 - ▶ Assist organizations of all sizes, experience levels (using CF, Lucee, or BoxLang)
 - ▶ 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, online calendar, etc at carehart.org/consulting
- ▶ But to be clear, I'm not selling anything in this session! 😊

ME.ABOUT()

- ▶ This talk is for those already using it. What if you're not?
- ▶ It's a valuable monitoring/troubleshooting solution
 - ▶ Can be implemented in CF, Lucee, BoxLang or any Java app or app server
 - ▶ Whether run as service, process, container, or via CommandBox
- ▶ It's a commercial tool, with a free 14-day trial. More at fusion-reactor.com
- ▶ I help people use it about daily; it's SO powerful!
 - ▶ Can help readily resolve so many problems
 - ▶ Can help watch trends over time, via its UI, reports, alerts, FR Cloud, and more!
- ▶ And maybe use you use it daily, but do you already know about...

IF YOU'RE NEW TO FR

- ▶ Archived metrics feature
 - ▶ Came out with FR 7.2 (early 2018)
 - ▶ Available in FR UI at **Metrics>Archived Metrics** or via **Logging>Archive Viewer**
- ▶ Shows metrics from previous hours—even before restarts—for up to past 30 days!
 - ▶ Is really a viewer of FR's tremendous logs
 - ▶ They log dozens of metrics every 5 seconds, and every request (start/stop), much more
- ▶ Demo
- ▶ More on these:
 - ▶ docs.fusionreactor.io/Logs/Log-Archive-Viewer/
 - ▶ docs.fusionreactor.io/Logs/Logs/
- ▶ Bonus tip:
 - ▶ Can also import FR logs into Excel/Calc/Sheets
 - ▶ docs.fusionreactor.io/Logs/Importing-and-Graphing-Data-in-Excel/

FR'S TIME MACHINE—
SEE WHAT HAPPENED BEFORE A RESTART

- ▶ The special url:
 - ▶ `[yourDomain_or_IP]/fusionreactor.cfm/findex.htm`
 - ▶ Works if your web server is configured to pass cfm request to CF
- ▶ Demo
- ▶ How to disable/enable this feature
 - ▶ **FusionReactor** menu (very top left) then **Enable/Disable** > **“UI access on external web server”**
 - ▶ Also offered during FRAM instance install
- ▶ Now disabled by default, as of FR 2025

ACCESSING FR FROM “OFF SERVER” (FOR BETTER OR WORSE)

- ▶ Do you get daily, weekly, and monthly reports from FR? You CAN!
 - ▶ They provide several key metrics about processing within your instance
 - ▶ The weekly reports do more than just aggregate the daily. Same for monthly
- ▶ Let's look at some
- ▶ To receive them, must configure **FR>Settings>Email Settings**
 - ▶ SMTP server, FROM address, TO address (can be a list of them), etc.
 - ▶ Beware: you'll get many up to 30 days of reports on first setup
- ▶ Bonus tip: by default, reports and alerts (next topic) go to that TO address
 - ▶ What if you want to send reports to a DIFFERENT address (or addresses)?
 - ▶ Configure that in **FR>Plugins>Active Plugins**
 - ▶ Select **FusionReactor Reports>Config>Daily/Weekly/Monthly Report>Recipients**

REPORTS TO WOW THE BOSS (OR YOUR TEAM/YOURSELF)

- ▶ Can configure alert notifications (or optional “protection”)
 - ▶ Conditions include too many or slow requests running, memory or cpu too high
- ▶ Can opt to just get email (my preference)
 - ▶ Or can optionally queue or reject requests upon reaching the alert condition
- ▶ Alert email includes details on requests running at the time of the alert
 - ▶ As well stacks trace of optionally each running requests or ALL JVM threads
 - ▶ I’ve done a youtube video on assessing FR CP alert emails
- ▶ Bonus tip: alerts on even more conditions are available in FR Cloud

ALERTS THAT ARE NOT “JUST MORE NOISE”

- ▶ History vs “slow” vs “longest”
 - ▶ Can see so many details about any given request (including queries and more)
 - ▶ Can see request’s cfhttp calls, json input/output
 - ▶ Can stack trace a running request
 - ▶ I’ve got youtube videos on these sort of FR fundamentals
- ▶ Transaction tracking by type (cfhttp, cfthread, and more)
- ▶ FR’s tracking of “sessions”, “applications”, “sources”
- ▶ CPU Sampler
- ▶ Viewing FR’s archived AND current logs
- ▶ Finding your implemented FR version
- ▶ Beyond these things you can “find”, what are some things you can “enable”?...

OTHER HELPFUL FEATURES YOU COULD MISS

- ▶ Tracking user agent in FR request logs
- ▶ Showing the user agent or other headers for each request
 - ▶ Also applies to FR alerts
- ▶ Tracking the “real” ip address for requests
- ▶ Using FR “restrictions” to prevent seeing “cf_connector_heartbeat” requests
- ▶ Logging JDBC queries (all or only those slower than xxx ms)
- ▶ Changing FR instance name (shown in top right of UI, and reports/alerts/cloud)

CONFIG OPTIONS THAT MIGHT DELIGHT YOU

- ▶ Options to show/hide data on graphs
- ▶ Links you could miss (on graphs, in request lists)
- ▶ Alternate views within some screens via menu at top

UI ELEMENTS YOU COULD EASILY MISS

- ▶ Option for login via LDAP/X.500
 - ▶ Or using FR Cloud credentials
- ▶ Event Snapshot feature (and why you may opt to disable it)
- ▶ Request Content Capture feature change
 - ▶ Can log EITHER requests, responses, or both; and headers, bodies or both (as of 10.0.2)
- ▶ New features, over various releases: docs.fusion-reactor.com/New-In-FR/
 - ▶ Of course, FR Cloud has even MORE new features, updating frequently
 - ▶ docs.fusion-reactor.com/Getting-started/WhatsNew/
- ▶ One last “hidden gem”...

SOME RECENT NEW FEATURES YOU MAY HAVE MISSED

- ▶ Many readily think of FR for monitoring CF or Lucee (and now BoxLang)
 - ▶ But again it can be implemented in ANY Java app or app server
- ▶ Did you know you could implement it in:
 - ▶ CF's "add-on service" (Solr and pdfG/cfhtmltopdf)?
 - ▶ As well as ANY Solr instance or any indeed Jetty-based app?
 - ▶ CF's PMT (yes, it's written in Java, so you could monitor CF's monitor!)
 - ▶ CF's API Manager
 - ▶ Even cf tools like cfpm, cfsetup
- ▶ Non-CF Java-based apps: Jenkins, Jira, BitBucket, Confluence, etc.
 - ▶ Any Spring, Spring Boot, Struts application, and so on

BONUS TOPIC: WHAT CAN FR MONITOR?

- ▶ FR Cloud (and its many added features, including AI)
- ▶ Observability Agent (ability for FR Cloud to monitor much more in your stack)
- ▶ FR request profiler, debugger, event snapshots
- ▶ Heap Profiler, “System Resources”, Enterprise Dashboard
- ▶ FR API
- ▶ FR login security, supporting https, etc.
- ▶ And still much more

MORE WE COULD DISCUSS (OR IF TIME)

- ▶ FR web site: fusion-reactor.com and fusion-reactor.com/blog
- ▶ Youtube videos (youtube.com/@FusionReactorMonitor)
 - ▶ My playlist: youtube.com/playlist?list=PLG2EHZEbhy09al6Lx0JIIUcpbA8UrwPuo)
- ▶ Release notes: docs.fusion-reactor.com/release-notes
 - ▶ fusion-reactor.com/blog/fusionreactor-7x-release-notes/
- ▶ FR Docs: docs.fusionreactor.io
 - ▶ What's new page: docs.fusion-reactor.com/New-In-FR/
 - ▶ docs.fusion-reactor.com/Configuration/FusionReactor-System-Properties/
- ▶ Log file formats (see excel page I'd mentioned)
 - ▶ docs.fusionreactor.io/Logs/Importing-and-Graphing-Data-in-Excel/
 - ▶ And my github log headers repo: github.com/carehart/FusionReactor-Log-Headers

RESOURCES YOU MIGHT NEVER HAVE NOTICED

- ▶ So many features of FR can make you even more capable
 - ▶ Hope I've pointed you to many that you will want to explore
- ▶ Again, my contact info for feedback/follow-up:
 - ▶ Charlie Arehart
 - ▶ charlie@carehart.org
 - ▶ @carehart (Slack, Github, X, FB, LinkedIn, etc.)
 - ▶ Slides: carehart.org/presentations
- ▶ With that, hope you enjoyed the talk!
- ▶ ...time for questions?

SUMMARY

