

## Using CF Studio Debugger: Yes, You Can! (A quick run through)

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## Presentation on Web Site

⌘ More detailed presentation is available at:

[www.figleaf.com](http://www.figleaf.com)

Choose "CFUG" from top navigation menu

From there, choose "Meeting Notes" on left navigation menu

Select May 1999

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## Studio Debugger: a Great, But Hidden 4.0 Feature

⌘ You can debug CF applications interactively

⌘ Several challenges, easily overcome here

⌘ Knowing how is more than half the battle

⌘ How many use Studio? Knew there was a debugger? Have used debugger?

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## Quick Run Through

- ⌘ Creating a mapping
- ⌘ Browing a file, to test mapping
- ⌘ Turning on gutter
- ⌘ Setting a breakpoint (on cf lines only)
- ⌘ Displaying, watching variables
- ⌘ Viewing output while its being built

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## Other Features to Note

- ⌘ Debugger remains active over multiple templates, until turned off
- ⌘ Can step over, out, and run to curser
- ⌘ Resetting variable values
- ⌘ Can change breakpoints while debugging
- ⌘ Can veiw all variables in environment
- ⌘ Breakpoints remain set over open/close of file

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## Limitations

- ⌘ Can't easily view records in recordset
  - ☑ But can display a given record's columns
  - ☑ Use queryname.column[n] in watch
- ⌘ Can't reset query column values
- ⌘ Can't debug a template if link/javascript opens it in a new window
- ⌘ Need to be using IE as internal browser (or Netscape NGLayout and Studio 4.01)

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## Tricks

- ⌘ Can set wildcard breakpoints
- ⌘ Can modify RDS server settings in "remote files" tab
- ⌘ Don't need to necessarily open file to debug it. Remember, debugger remains active until stopped

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## Traps

- ⌘ In development mappings, "cf studio path" is not path TO the studio executable!
  - ☑ it's a model describing how a given file is opened in studio to point to the server that holds the file
    - ☑ could be c:\..., or m:\..., or \\myserver..., or rds://myrdsserver/c:/...

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## Gotchas

- ⌘ Must use debug>start to debug. Can't simply browse (good thing: can browse without debugging)
- ⌘ The "start page url" which is guessed for you may be not quite accurate. Correct one is often offered in list underneath, or can type in directly
- ⌘ Can't debug encrypted templates

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## Why a Debugger?

- ⌘ Alternative to CFOUTPUT/CFABORT
- ⌘ Can be done on read-only files
- ⌘ Can be done on remote server without having to modify code on that server
- ⌘ Your debugging of a page has no impact on end users running the same page

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## Where Can I Debug?

- ⌘ Can debug code running on own machine (single user version of CF, if installed)
- ⌘ Can debug code on a remote machine
- ⌘ Can debug any file you can browse:
  - whether mapped as local file
  - drive-mapped server
  - UNC/network neighborhood connected server
  - CF RDS (remote developer services)

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## What are Debugger Challenges?

- ⌘ Finding documentation
  - will share on next page
- ⌘ Not an intuitive interface
  - will walk through
- ⌘ Error messages not too informative
  - will describe most common ones
- ⌘ Must know about development mappings
  - see documentation and complete slides

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## Minimum Requirements

- ⌘ Release 4 or 4.01 of Studio and Server
- ⌘ Server must be running RDS service
- ⌘ If server is protected with an RDS password, you will need to know that

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## Where is this documented?

- ⌘ Not well documented
- ⌘ R4 docs
  - "Developing Web Applications with CF", Chapter 7
- ⌘ R4.01 docs
  - New manual "Using CF Studio", Chapter 5
    - available online at [allaire.com](http://allaire.com)
- ⌘ New Home Site book by Ben Forta

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## Enjoy!

- ⌘ Give it a try!
- ⌘ Good luck using it and solving problems!

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## Setting Up to Use Debugger

### ⌘ Used entirely within Studio

- No need for external browser
  - leverages "internal browser" in Studio
  - won't work with external browser

### ⌘ Requires further that **IE be chosen for Internal Browser**

- Options>Settings>Browser>"Use MSIE as the internal browser"
- Must be running IE 3.01 or later

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## Preparing to Use Debugger

### ⌘ Open template to be debugged in Studio

- whether local or via remote tab

### ⌘ Attempt to "browse" it

- Click on "browse" tab next to "edit" tab, or press F12
- if it can't be browsed, it can't be debugged***

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## Common Error on Browse

⌘ If first time using "browse", will likely get this error:



- need to "add a server development mapping"

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## Mapping & Debugging

- ⌘ Many developers don't care for "internal browser" in Studio
  - ☑ many haven't bothered with mappings
  - ☑ but it's critical to using debugger
- ⌘ Understand "Development Mapping" and you're halfway to "debugging"
- ⌘ Bulk of this presentation is on this setup requirement. Can't debug without it.

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## About Dev. Mapping

- ⌘ Dev. Mapping helps Studio internal browser know 3 paths to file:
  - ☑ how studio (or your pc) will find the file
  - ☑ how the CF server (whether local or remote) will find the file
  - ☑ how the browser will find the file (url)
- ⌘ Values will vary greatly depending on if local or remote files are being browsed

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## Local, Network, & Remote Browsing

- ⌘ Many may know how to setup browse of "local" files (with Studio and web server on their PC)
- ⌘ Most probably stymied trying to setup browse of networked files with networked server
- ⌘ Even more challenging: remote files on remote server
  - ☑ challenging only until you've been shown!

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## Creating a "Development Mapping"

### ⌘ How to begin?

Either of 2 ways:

options>settings>browse>development mappings

*or*

debug>development mappings

2 routes to same result

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## Configuring a Dev. Mapping

### ⌘ Once in "dev. mapping" interface

choose appropriate "cold fusion server" from drop down list

if none, must create one for your server (either local pc, or remote server, or both)

select "add RDS server"

different setup depending on if local or remote file being browsed

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## All Configurations Supported

⌘ Studio and Server on same machine

⌘ Studio browsing/debugging server on another machine, using drive mappings

⌘ Studio browsing/debugging server on another machine, using UNC path ("network neighborhood")

⌘ Studio browsing/debugging server on another machine, using Remote Dev Svcs

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## "Local" Mapping

⌘ If running web server on same machine as Studio, this calls for a "local" mapping

⌘ To browse a local file,

Studio may see file using path:

c:\inetpub\wwwroot

CF server sees same path

Browser uses url:

http://localhost

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## Configuring "Local" Mapping: Step 1

⌘ On choosing "add RDS server",

enter "localhost" for description

enter "localhost" for host name

click "ok"

⌘ On return to "dev mappings" screen,

select "localhost" as server just created

assuming no mappings, create one...

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## Configuring "Local" Mapping: Step 2

⌘ Indicate "studio path" for locally browsed web server

enter name of web root (type or "explore")

c:\inetpub\wwwroot\, for IIS

c:\webshare\wwwroot\, for Personal Web Server

note this enters same value for "server path"

also creates "http://localhost" by default

these are both desirable defaults

click **"Add"**, to add the new mapping, then **"ok"**

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## Configuring "Local" Mapping: Step 3

- ⌘ Test new mapping, by choosing "browse"
  - ☑ "browse" tab or F12
- ⌘ Should successfully execute, if not, revisit steps
- ⌘ Now that you can browse, you can debug

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## "Step 2" for Other Configs

- ⌘ Following screens show helpful info for browsing/debugging files on remote network servers
- ⌘ Shows info needed for "step 2" in previous 3 steps

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## "Network Drive" Mapping

- ⌘ Files may be accessed from Studio with drive mappings, such as:
  - ☑ Drive "x:" mapped to
    - \\yourserver\webprojects
  - ☑ Studio may see file using path:
    - ☑ x:\app1
  - ☑ CF server (on network pc) may see path as:
    - ☑ C:\webprojects\App1\
  - ☑ Browser uses url:
    - ☑ http://206.191.43.1/App1/

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## “UNC” Mapping

⌘ Files may be accessed from Studio with UNC path/Network Neighborhood, such that:

Studio may see file using path:

\\ourserver\webprojects\app1

CF server (on network pc) may see path as:

C:\webprojects\App1\

Browser uses url:

http://206.191.43.1/App1/

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## “RDS” Mapping

⌘ Files may be accessed from Studio using RDS, such that:

Studio may see file using path:

RDS://MY\_RDS\_SERVER/C:/webprojects/App1

CF server (on network pc) may see path as:

C:\webprojects\App1\

Browser uses url:

http://206.191.43.1/App1/

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## TIP: Modifying Existing RDS “Server”

⌘ Can't view properties of existing “RDS server”s shown in Dev. Mappings

(Can edit mappings, but not the servers listed, even if added using this interface)

can edit properties using “remote files” tab in Studio

select drop-down list of “remote servers”

any “rds” servers will be those listed in mappings interface.

Right-click on server to view properties

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## Details of Server Mappings

⌘ Details on setting up these various types of server mappings are in CF Manual/online help:

☑ "Developing Web Applications with ColdFusion"

☑ Chapter 7, "Debugging and Troubleshooting"  
• "Creating RDS mappings"

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## Using Debugger

⌘ Following is brief intro to use of debugger

⌘ Beware: debugger is a tad unstable at times

☑ can't hurt, but can frustrate

⌘ Key point: use R4+ studio to R4+ server

☑ attempting to debug a pre-4 server will fail

⌘ Requires RDS password, if secured

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## HeadStart to Debugging

⌘ Open file to be debugged

⌘ Set a breakpoint on executable CF lines

☑ double click in gutter

☑ or debug>toggle breakpoint

☑ *set on any line with cf references*

⌘ Choose debug>start/continue

☑ on offered screen, choose appropriate "server"

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## HeadStart to Debugging (Cont)

⌘ Confirm appropriate "start url", click "ok"

list box shows currently opened files

Should run to first breakpoint

⌘ Can step through code: debug>step into

will debug into called templates

debug>step over will not

⌘ Can choose to skip debugging until next breakpoint

with debug>start/continue

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## Other Features

⌘ Setting "watches"

⌘ Evaluating/resetting/creating variables during debugging

⌘ Viewing variables, recordsets, output as its being created in buffer, "tag stack"

⌘ Using "step over", "step out", "run to cursor"

⌘ Undocumented feature: "wildcard breakpoints"!

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