ColdFusion RDS:
From Stress to Success

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Presentation Outline

- What RDS Is, What It Can Do
- Use in CF Studio, HS+, DWMX
- Implications for CFC Browsing
- Common Challenges, Misconceptions
- Setup in Server, Editors
- Security Concerns & Solutions
- Where to Learn More

What Is RDS?

- Remote Development Services
  - Mechanism for accessing resources on a ColdFusion server from within editor
  - HTTP-based communication between editor and server to facilitate development

-Name suggests intention is for remote access

    -But just as useful, perhaps more, for use on own machine or within own network

-Supported in CF 3.1, 4, 4.5, 5, MX

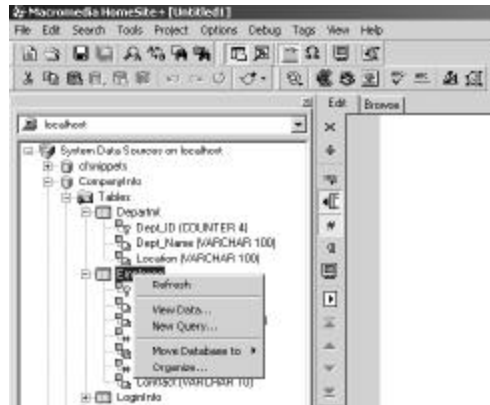   -CF Studio 3,4,5; Dreamweaver MX

What Can It Do?

- Several features enabled
  - in CF Studio/HomeSite+
  - And Dreamweaver MX
- Let's look at each of them...

Use in CF Studio, HS+

- Resource tab>Databases

-Lists all DSNs defined in CF Admin

-Can view all tables, cols, views

    -Click plus signs to expand

-Can drag and drop dsn's, table, cols into editor

    -DSN creates CFQUERY skeleton

-Can view all data in a given table

    -Double-click table, or right-click>view data

-Can use SQL query builder

    -Right-click on table>new query

5

Use in CF Studio, HS+ (cont.)

- Resource tab>Files
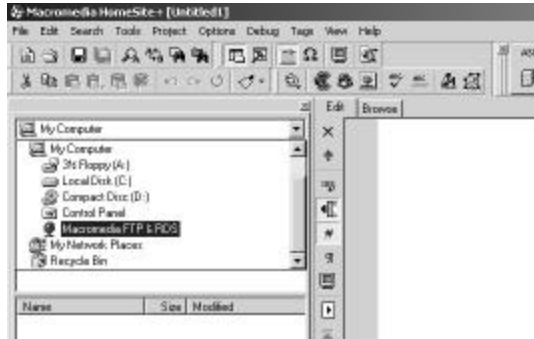
-Select "Macromedia FTP&RDS" as a drive

     -Expand an RDS server

     -Will be shown all drives on that server

     -Expand to see files in directories

-Can edit files

     -save will save them back to the server

Use in CF Studio, HS+ (cont.)
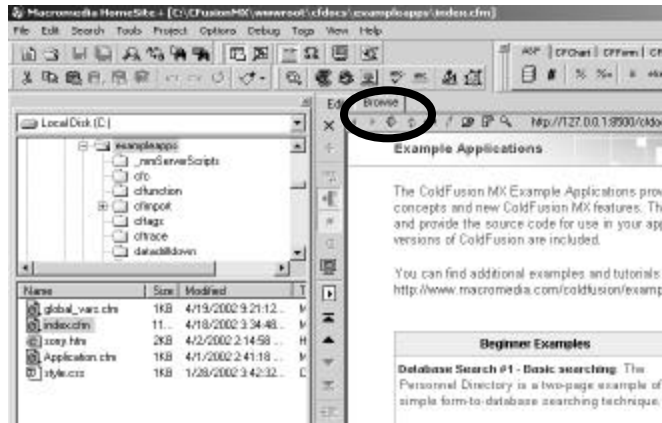
- Windows Explorer/My Computer

-Select "Macromedia FTP&RDS" as a drive

     -Expand an RDS server

     -Will be shown all drives on that server

     -Expand to see files in directories

-Can right-click

     -Rename, delete, copy (clipboard) any file

     -Edit any file that CF Studio/HS recognizes
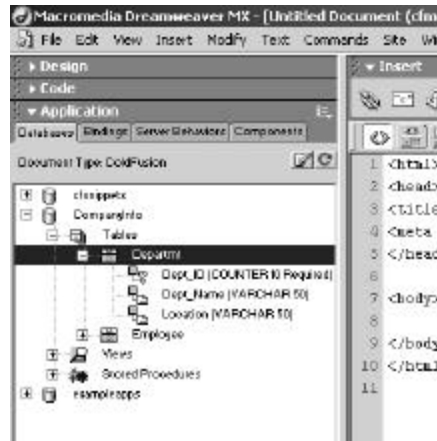
Use in CF Studio, HS+ (cont.)

- Internal browse

-Need to setup "development mappings"

-"Internal browse" really doesn't require RDS

-See "where to learn more" for info on setting up, using development mappings

Use in CF Studio, HS+ (cont.)

- CF Debugger

-Can single-step through code code, etc.

-<u>Does</u> require RDS connection to server

-Must have established development mapping (be able to browse) in order to debug

-Debugger is <u>not supported</u> on CFMX server

-See "where to learn more" for info on setting up, using debugger

-See Applications Panel>Databases

      -Can view tables, views, stored procs

          -See tip later when attempt to use DBs fails

      -Right-click>View Data option scrolls 25 at a time

      -Also supports drag and drop like CF Studio

      -SQL Builder only available by way of bindings, server behaviors features

-DWMX RDS features show only if a CF file is opened and a Site defined

Tip: When DB features fail

- Sometimes may get error in DWMX attempting to gather DB metadata
  - Make sure all DSNs in Admin verify
    - Have noticed that if any fail to verify, DWMX may choke on that
  - Have also found that some DSNs that fail to verify can be easily fixed
    - Simply edit and save the DSN in admin
    - Try DB feature in DWMX again

Use in DWMX (cont.)

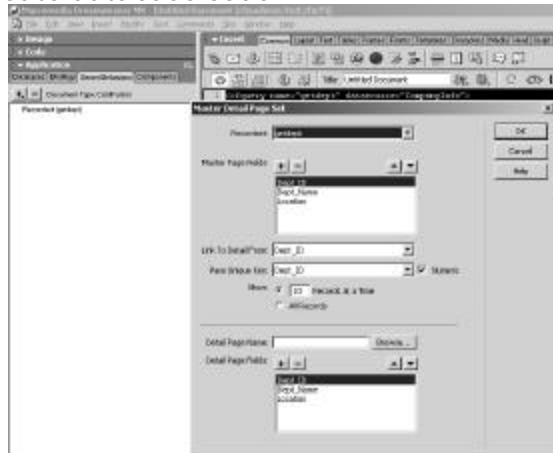- Create database code
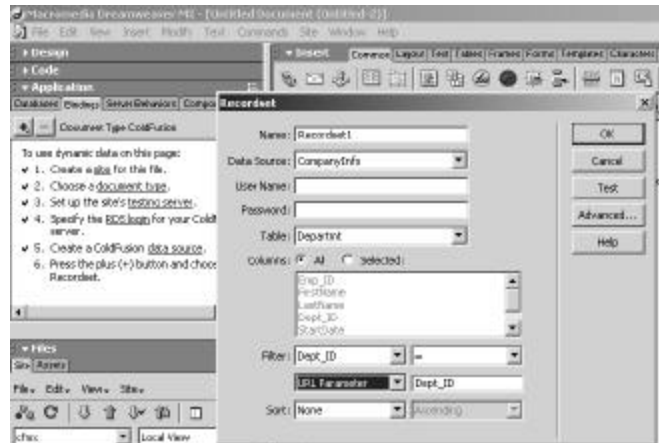
-See Application Panel>Bindings

-Click "+" to create new Recordset (query)

-To create SQL code

-Not available "test" and "advanced" options

Use in DWMX (cont.)

- Create database code

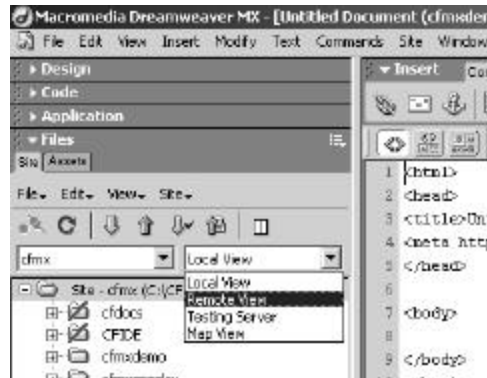www.systemanage.com our practice makes you perfect ˢᵐ

-See also Application Panel>Server Behaviors

-Or Insert>Application Objects

-For many other features to generate CF code to manipulate DB

13

Use in DWMX (cont.)

- Access Remote/Dev Server Files

-See Site>Edit Site>Remote Info>Access>RDS

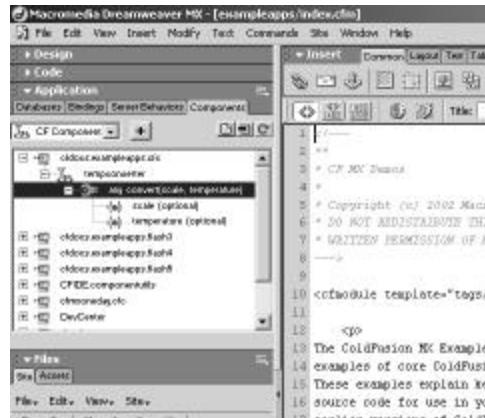-Then use Files panel, Site tab>Remote View

-Note also last icon for expand/collapse, to list both remote and local files on one screen

    -Note get, put, check-in/out features there

        -As well as in Site menu

Implications for CFC Browsing

- DWMX CFC browsing also leverages RDS

-In DWMX, see Application Panel>Component Explorer
    -Note: may take a long time, gathers ALL CFCs on server

Implications for CFC Browsing

- Browser-based CFC browsing also leverages RDS

-In browser:

    -Browse URL for a given CFC

    -Or to view all CFCs, browse http://[server:port]/CFIDE/componentutils/componentlist.cfm

    -Or to view all CFC packages, http://[server:port]/CFIDE/componentutils/packagelist.cfm

Implications for CFC Browsing (cont.)

- It IS possible to prevent requirement to provide RDS password for CFC browsing
  - Just requires a little modification to delete or replace application.cfm in [webroot] /CFIDE/componentutils

-See my blog entry of Feb 24, 2003

-http://cfmxplus .blogspot.com/2003_02_23_cfmxplus_arch ive.html#90365106

-I offer code to prompt for a new "cfc" password rather than the RDS password

Common Misconceptions

- RDS only for connecting to remote CF servers
  - Just as useful for localhost and lan servers
- RDS grants access to all files & databases on server
  - In CF 4,5, was optional Advanced Security mechanism for individual or group RDS logins
- CF 4,5 Adv. Security was Enterprise only
  - Not true. Sandbox Security was Ent Only
- RDS server settings in CF Studio/HS+ can't be edited or deleted

Common Challenges

- Adding RDS server settings
  - What password, hostname, port, etc.
- Editing, deleting RDS server settings
  - Hard to find out how to do so
- You're typically not given the RDS password for a server
  - Admin is concerned about security
- CFMX no longer offers RDS sandboxing
- Must provide RDS password to browse CFCs

Setup in Server

- In CFMX, RDS is enabled as feature of CFMX server, not own service
  - See later "security" section to disable
- In CF3.1, 4, 5, can be enabled either as service or program depending on OS
- In both, define password in admin
  - More on adv sec approach in CF 4-5, later

Setup in Server: CFMX

Setup in Server: CFMX for J2EE

- Special Sun patch needed to enable RDS on CFMX for J2EE
  - See "Installing ColdFusion MX for J2EE on the Sun J2EE 1.3.1 Reference Implementation on Windows"
    - http://www.macromedia.com/support/coldfusion/ts/documents/tn17203.htm
  - See also "Installing ColdFusion MX for J2EE on other J2EE Servers"
    - http://www.macromedia.com/support/coldfusion/j2ee/phase2-java-deploy.html
  - Similar technotes for different J2EE servers

Other Server Setup Issues

- For Unix/Solaris/Linux and for 4.5, see "hot fix" available for RDS
  - http://www.macromedia.com/go/suppissues_cf_hotfixes

Setup in CF Studio, HS+

- During install, may be prompted to setup connection to RDS server
- After install, can add RDS servers using:
  - Database tab
  - Options>settings>browse> development mappings
    - Or Debug>development mappings
    - Or Alt-M

CF Studio, HS+: Add RDS Server
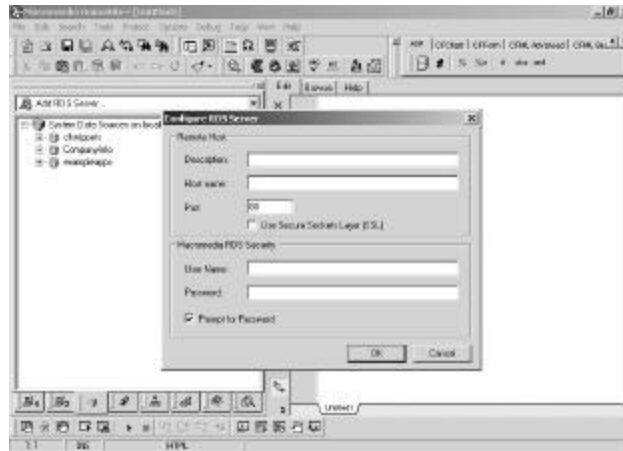
CF Studio, HS+: RDS Server Settings

- Pay attention to needed settings
 - In hostname, just enter domain name or IP
    - No http:// or any other /'s
    - For your own machine, use localhost or 127.0.0.1
  - For port, in CFMX if using built-in web server, set it to 8500
  - Can select SSL if needed
  - For security fields, typically will enter only a value for "password"
    - And it would be the RDS password defined in Admin
    - More on security options later

CF Studio, HS+: Edit RDS Server Settings

- Cannot edit or delete RDS server settings using those interfaces
  - Must use Files tab or Windows Explorer/My Computer
    - Then, at same level as hard drives, find "Macromedia FTP & RDS"
      - Or in CF Studio 4.5 and earlier, "Allaire FTP&RDS"
  - Can then right-click on server, choose properties (or delete)
    - Can also use "administer" to open CF Admin
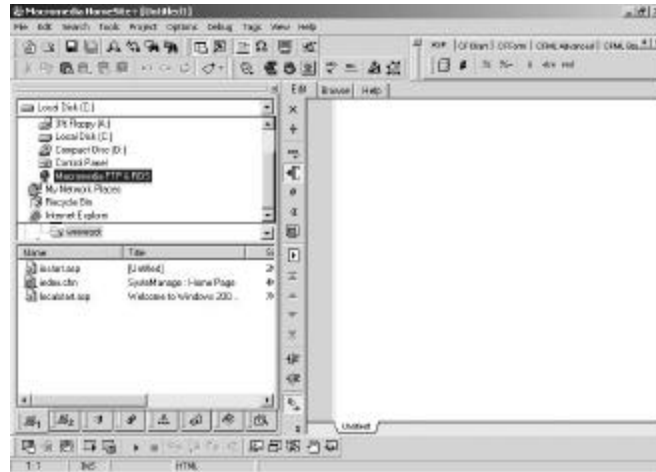
CF Studio, HS+: Edit RDS Server Settings (cont.)

CF Studio, HS+: Edit RDS Server Settings (cont.)

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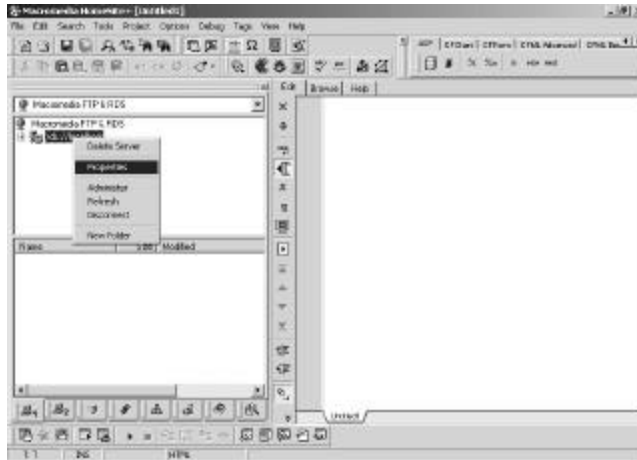
Setup in Dreamweaver MX

- Must create a "site"
  - And in that site, create "testing server"
- Then with a CF page open, choose an option that leverages RDS
  - Such as Application panel>Databases
  - If first time doing so in this site, will be prompted to enter RDS login info
    - This is the Admin RDS password

Security Concerns: Outsiders

- Potential unauthorized access by outsiders
  - Anyone with CF Studio/HS+/DWMX can attempt to connect to your server
  - Be sure to have Admin RDS password set
    - Never disable password on a network-connected server
    - Don't choose easy passwords like "rds", "admin"
  - Consider adding Web Server security to restrict access to /CFIDE/main/ide.cfm
    - Which is the location where editors connect to RDS

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Security Concerns: Insiders

- Potentially too broad access for insiders
  - Sadly, the default for RDS security on all CF servers is a single RDS password
    - All developers who know that can see all DSNs and all files/dirs on entire server
    - Really is inappropriate for any non-localhost server
      - Not just commercial hosting provider
      - But also for shared departmental server if multiple developers

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Security Solutions

- In CF 4-5, can assign individual or group logins for RDS
  - Supported by Advanced Security
    - Does NOT require Enterprise
    - Does NOT require use of Adv Sec for applications. Can be just for RDS
  - Turn on Advanced Security option
    - then configure "security server", "user directory", "security context", "resources to protect"
    - Then turn on "Use ColdFusion Studio Authentication"
    - Then CF Studio/HS+ users should change to use username and password
      - Bummer: DWMX only prompts for password

Security Solutions

- Disabling RDS entirely
  - If security concerns are too great, can simply disable RDS entirely
    - Recommended for production servers
  - Don't just turn off RDS password in CF Admin, though!
  - Need to disable the RDS capability for the server...

Security Solutions

- Disabling RDS entirely (cont.)
  - In CF 3.1, 4, 5, stop the RDS service and set it to "manual" in Services panel
  - In CFMX, open WEB-INF\web.xml
    - Comment out RDSServlet mapping
  - See Technote at http://www.macromedia.com/support/coldfusion/ts/documents/tn17276.htm
  - Beware: disabling RDS will also disable "browse" applet in CF Admin
    - Happens in CFMX as well despite what technote says

Where to Learn More

- Using DB, debug, browse, dev mapping tools in CF Studio/HS+
  - See manual included in editor Help>Open Help References Window
    - Includes manual, "Using ColdFusion Studio" or "Using HomeSite+ for Dreamweaver MX"
    - Great resource that many never see
  - Especially see chapters:
    - Configuring Browsers and Servers
    - Accessing Data Sources
    - Debugging Application Code

Where to Learn More (cont.)

- Using features in DWMX
  - See Help>Using Dreamweaver MX
  - Especially chapters:
    - Dreamweaver Basics
    - Preparing to Build Dynamic Sites
    - Making Pages Dynamic

Where to Learn More (cont.)

- Administration, Security
  - CF 5
    - Installing and Configuring ColdFusion Server, chapter 5 "Basic ColdFusion Server Administration"
    - Advanced ColdFusion Administration, chapter 3 "CF Security"
    - Online at http://livedocs.macromedia.com/cf50docs/dochome.jsp
  - CFMX
    - Basic ColdFusion MX Administration, chapter 2
    - Online at http://livedocs.macromedia.com/cfmxdocs/dochome.jsp

38

Where to Learn More (cont.)

- My resources
  - More about HomeSite+
    - See my blog entries (cfmxplus.blogspot.com)
      - Mar 5 03, Jan 10 03, Oct 4 02, and Sep 27 02
  - More about DWMX
    - See my blog entries
      - Sep 27 02, Oct 16 02, Nov 12 02, Nov 17 02, Nov 24 02, Dec 20 02

39

Where to Learn More (cont.)

- My resources (cont.)
  - CF5 Security Config
    - Toward Better CF Server Administration--Part 2: Security
      - http://www.sys-con.com/ coldfusion/article.cfm?id=426
  - CFMX Security Config
    - ColdFusion Security, Part I: Understanding Sandbox/Resource Security
      - http://www.macromedia.com/ devnet/security/articles/sand box_01.html
    - Part 2: Setting Up Sandbox/Resource Security
      - http://www.macromedia.com/ devnet/security/articles/sand box_02.html

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