

CF9 Server Administration

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CF

Fx

AIR

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Session Agenda

❑ Managing your Environment

- ❑ ColdFusion Install Decisions
- ❑ Creating and Managing Instances
- ❑ Managing Server Settings
- ❑ Designing a Storage Structure
- ❑ Managing Production Environments
- ❑ Troubleshooting

❑ Moving to CF9

- ❑ CF9 Server Manager (demo)
- ❑ CF Server Monitoring
- ❑ CF 9 New Integration
- ❑ CF 9 Performance
- ❑ CF 9 New DB Drivers

❑ Migrating to CF 9

- ❑ Code Analyzer
- ❑ Moving Settings Across

Managing your Environment

ColdFusion Installation Decisions

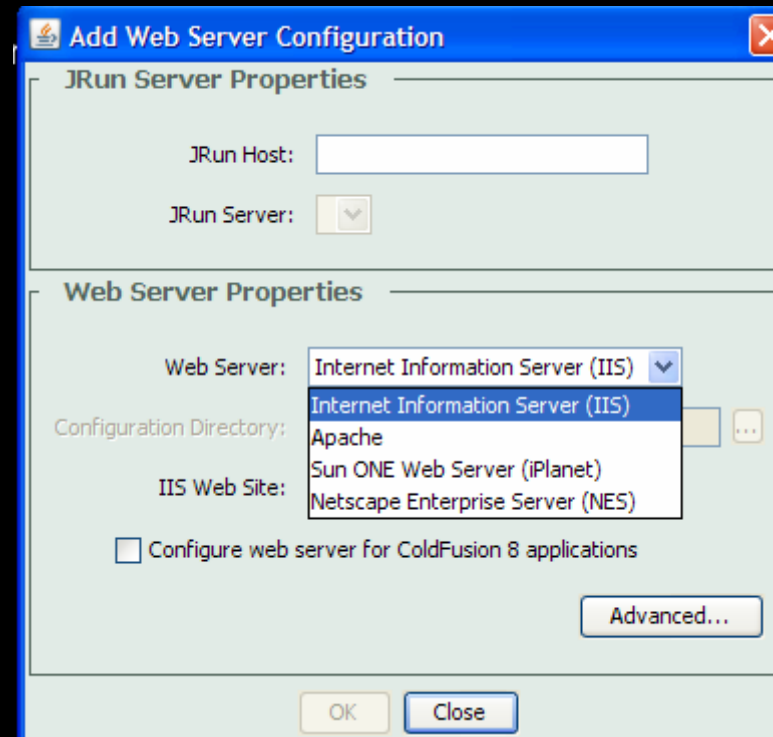
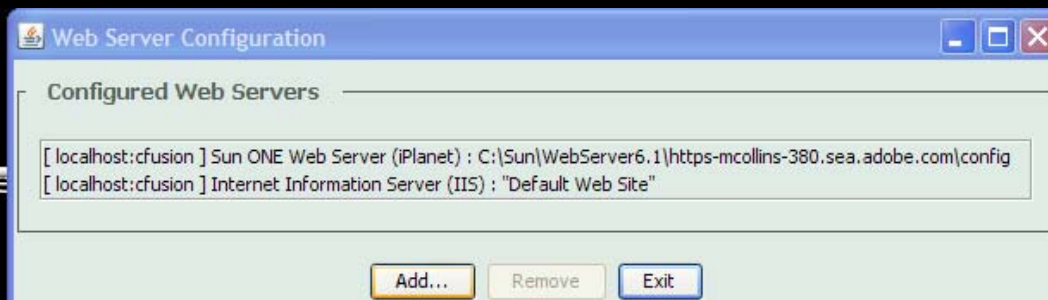
- Decisions around setting up ColdFusion
- What Version?
 - Standalone, Multi-Server, J2EE\EAR
 - 32 bit / 64 bit
- Web Server Connectors
 - IIS, Apache, SunOne,
 - JRun Web Server Port 8300
- Database Drivers
 - Embedded DataDirect Drivers, ODBC, Third Party
- Silent Installs
 - Use a properties file for all settings
 - .Net has it's own installer (supports silent)
 - Updaters do not have silent option
- Licensing
 - Developer, Professional, Enterprise, Educational, Disaster-Recovery, Migration Period, Virtual Servers

ColdFusion Installation Decisions

- **Creating Server Instances**
 - CF Enterprise Manager
 - WAS, WebLogic would use their IDE then deploy CF EAR
 - JRun Admin Server Services
 - ODBC Support (ODBC Installed when you first touch the administrator)

ColdFusion Installation Decisions

- Web Server Connectors
 - IIS, Apache, iPlanet
 - Wizard setup on Windows
 - Command line setup on Unix/Linux
- JRun has connector based clustering
 - In-memory session failover
 - Load balancing
 - Weighted
 - Sticky Sessions



Creating and Managing Instances

Managing Settings and Code

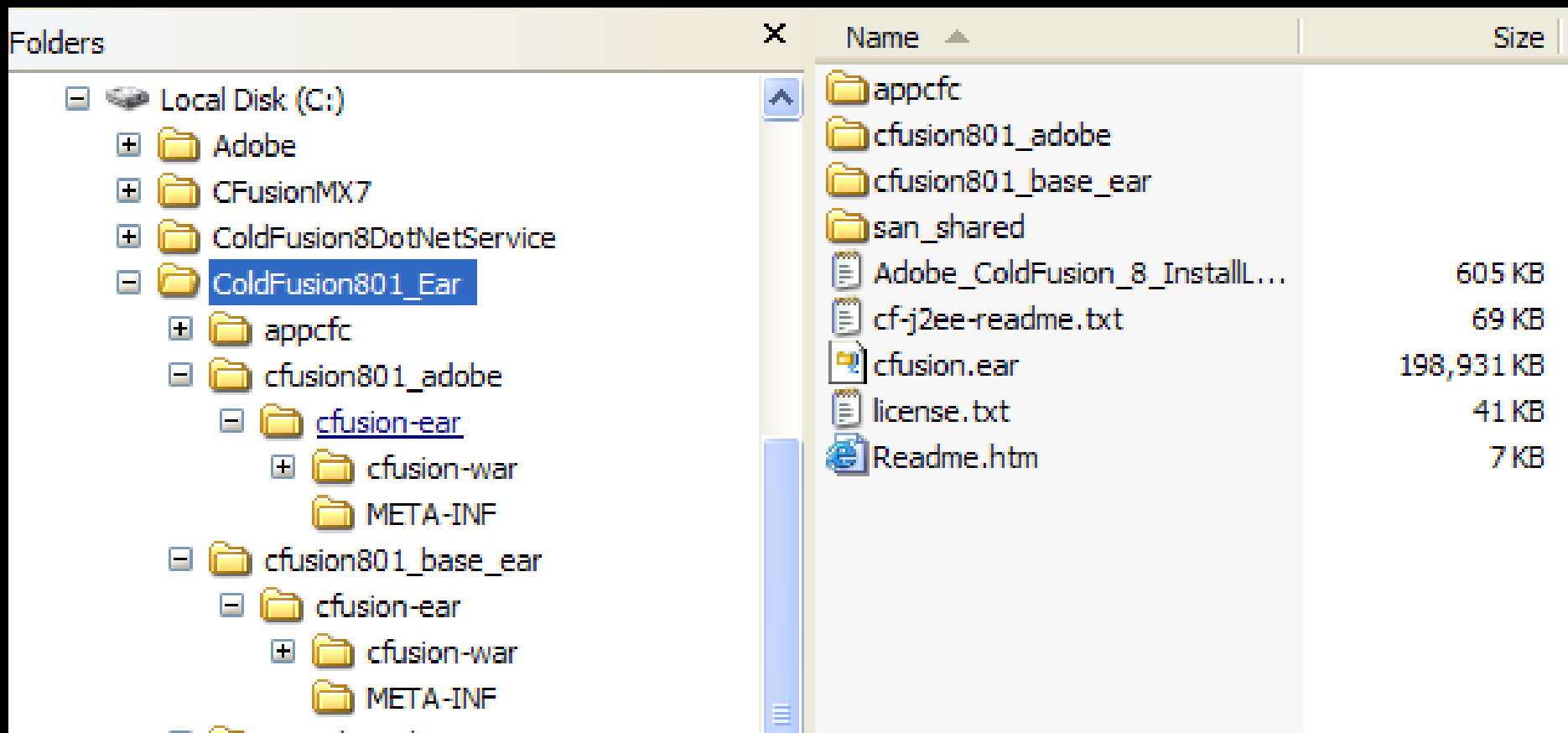
- Ways you can manage settings
 - Build a corporate level ColdFusion EAR template
 - Create ColdFusion Archive Files
 - Use Network Shared Drive to share code
 - Use the ColdFusion Administrative API to perform administrative tasks
 - Manage settings with Neo* files located in `..\web-inf\cfusion\lib`
 - **ColdFusion 9 Server Manager**

Managing Settings and Code

- Organization Level standards
 - ColdFusion EAR
 - CAR Files
 - Network Shares
- What else can be shared or standardized?
 - Error pages
 - Custom Tags
 - Frameworks
 - CF8 Alerts
 - Administrator Security
 - Server Monitoring
- Everyone will have their own requirements and their own unique solutions

Building a custom CF EAR

- Post install explode ear and war
- Make a copy as the one to use for building a template and archives



Building a custom CF EAR

- Create EAR that you deploy as base EAR with all embedded settings and code
- Add in Security
- Database Drivers
- Add in CF Frameworks
- Add in CF Alerts Settings

- Embed CAR files
- Add in CF Hotfixes
- Add in Custom Tags
- Embed Single Sign-On Modules
- ...

Using CAR Files - Benefits

- Create sets of CAR files
 - Alerts, DSNs, Logging
- Add in mappings and shared networks drives to share custom tags, CFCs, Error Pages
- Place CAR files on shared network drive for all to deploy
- Sandbox settings are not archived with CARs

Using CAR Files – Building and Deploying

http://127.0.0.1:8308 - Archive Wizard - Microsoft Internet Explorer

Archive Wizard base_alerts: Archive Settings

- Archive Information
- Assoc. Files/Dirs
- Server Settings**
- CF Mappings
- Data Sources
- Verity Collections
- Scheduled Tasks
- Event Gateways
- Java Applets
- CFX Tags
- Web Services
- Archive To Do List
- Archive Summary

General Server Settings

	Name	Description
<input checked="" type="checkbox"/>	Settings	Examples: limit the number of simultaneously processed requests; timeout requests after X seconds. See the Settings section of the ColdFusion Administrator for more details.
<input checked="" type="checkbox"/>	Caching	Examples: set template cache size; limit the maximum number of cached queries. See the Caching section for more details.
<input type="checkbox"/>	Basic Security	Examples: enable and assign ColdFusion Administrator/Studio passwords; restrict use of certain tags. See the Basic Security section for more details.
		Examples: enable client and memory

Close Window

Using CAR Files – Sharing Alerts

Alert Configuration

Unresponsive Server Slow Server JVM Memory Timeouts Email Settings

If the number of threads specified by Hung Thread Count execute for longer than the time specified by Busy Thread the server is considered to be unresponsive.

Enable

Event

Hung Thread Count

Busy Thread Time (secs)

Actions

Send E-mail.

Dump snapshot.

Kill Threads running longer than (secs)

Reject any new requests.

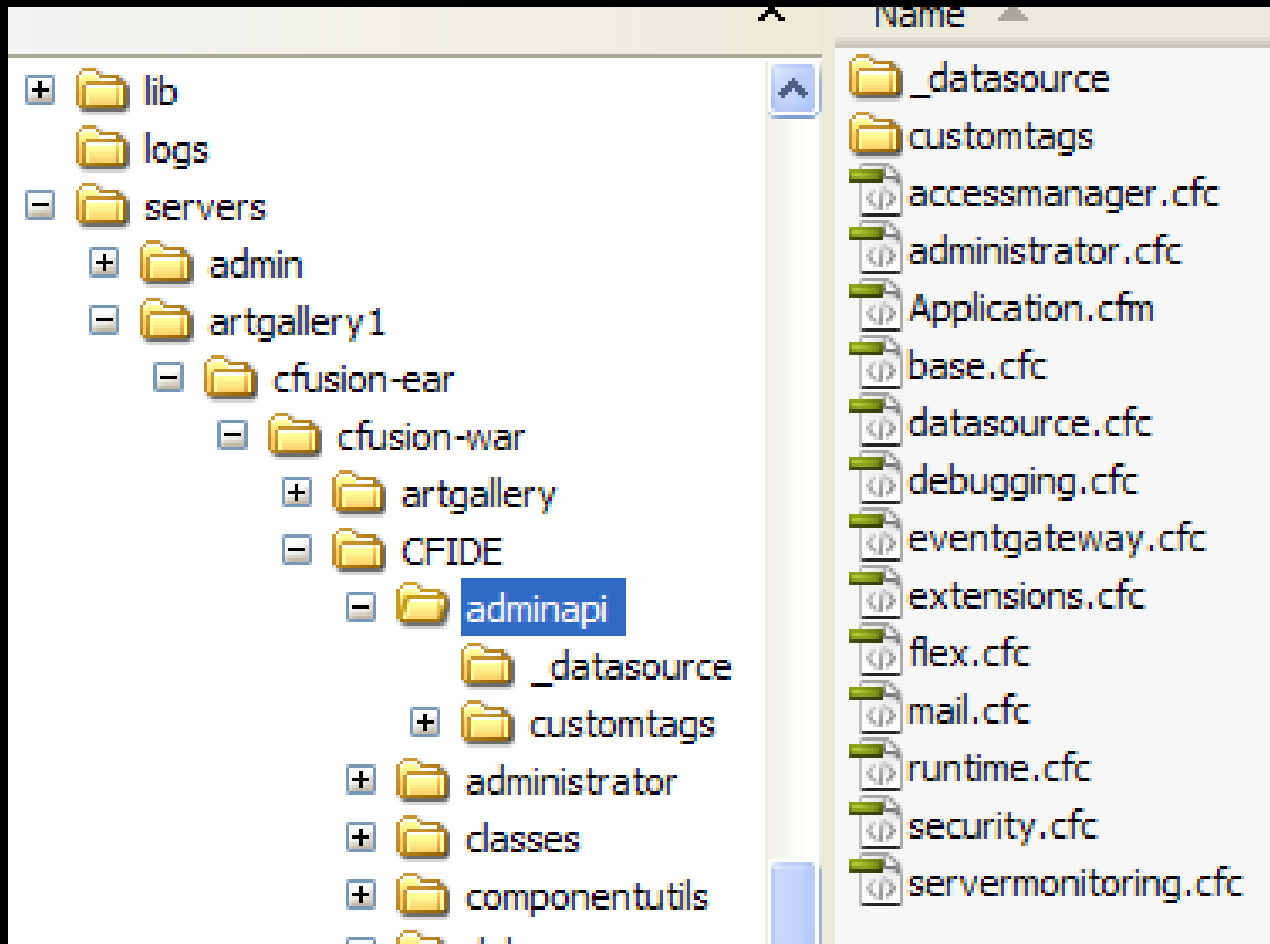
Processing CFC

Note: Alert CFCs must have two functions, onAlertStart() and onAlertEnd(), which accept a structure as an

Apply Undo

Using the ColdFusion Admin API

- Allows you to create custom administrative scripts



CF9 CFCs

CF	accessmanager
CF	administrator
CF	Application
CF	base
CF	datasource
CF	debugging
CF	eventgateway
CF	extensions
CF	flex
CF	mail
CF	runtime
CF	security
CF	serverinstance
CF	servermonitoring

Using the ColdFusion Admin API

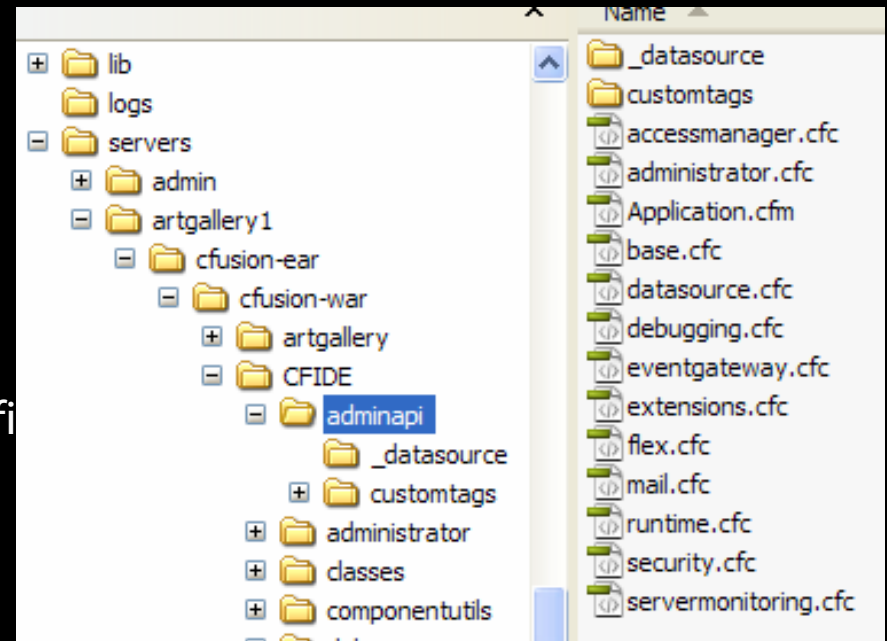
- Custom Scripts
 - Creating a DSN
 - Sandbox Security
- Maintenance of many servers
- ColdFusion 8 added a new Monitor API
- ColdFusion 9 added new serverinstance api
- Perform almost all tasks that are in CF Admin
 - Cannot build deployable EARs
- Uses same authentication as CFIDE Admin

Standardize on ColdFusion Error Handling

- Site wide Error Template
 - Global exceptions
- CFError
 - Application or request level
- CfTry \CFCatch
 - Code level

Securing CF Administrator

- **Securing the CFIDE**
 - User \ Group permissions introduced with CF8
- **Remove it**
 - Place it back when required
 - Keep the /cfide/scripts directory however
- **Actual server settings are stored in neo* files**
- **Place it in a Authorized area**
 - NTLM
 - IIS Integrated Authentication
- **Need to consider the Admin API**
 - Uses same authentication as CF Admin
 - Located at /cfide/adminapi



Using Network Storage - Benefits

- Easy to share code base across environments
 - Prod, Test, Dev
- Share Corporate or Third Party Frameworks
- Share ColdFusion Components
 - Add mappings in Administrator
- Share ColdFusion Custom Tags
- All servers can log to one place
- Share ColdFusion error pages
- Share code and content caches for servers in a clustered environment
- Use as the web root for ColdFusion application code
 - IIS connector will look for source in web root or app server root

Managing Production Environments

- Sourceless Deployment
- Precompiling CFMs
 - Cfcompile utility
 - The cfcompile utility is located in the *cf_root/bin* (server configuration) or *cf_webapp_root/WEB-INF/cfusion/bin* (multiserver and J2EE configuration) directory

Troubleshooting and Debug Tools

- ColdFusion Server Monitor and Alerts
- CF9 Server Manager
- CF Server Logs
- CF Snapshots \ stack traces
- JConsole – visualize heap, monitor threads
- JRun Metrics
- Third Party
 - SeeFusion, FusionReactor
 - Charles
 - HTTP traffic with AMF\Flex support
 - <http://www.charlesproxy.com/>
 - Stack Trace
 - If you can't use CF 8 Snapshot another good stack trace capture tool
 - <http://www.adaptj.com/main/stacktrace>

Benefits of Managing Settings and Code

- Easily build servers and share settings and code
- Easily rebuild any environment
- Share Corporate standards
 - Alerts, Security, Authentication
- Creates a standard approach for System Administrators

Moving to CF 9

Administrative Challenges

- A way to track all running instances and applications across data centers
- Be alerted when errors occur on any server
- Allow all servers to have uniform settings
- A way to see performance metrics for all my servers
- Ability to add a Datasource definition to all servers
- Apply a hot fix to all servers with one request
- Compare settings between 2 servers

CF9 Answers the Challenge

- A way to track all running instances and applications across data centers
 - A new OnServerStart method to create a nice place to put some server tracking
- Be alerted when errors occur on any server
 - Server Manager now will capture alerts and bring up a Toast message along with emails
- Allow all servers to have uniform settings
 - Server Manager batch processing of setting changes
- A way to see performance metrics for all my servers
 - Server Manager allows easy viewing of all registered servers metrics
- Ability to add a Datasource definition to all servers
 - A common task that can now be done with the Server Manager
- Apply a hot fix to all servers with one request
 - The Server Manager will not allow you to deploy CF Hot Fixes to all servers
- Compare settings between 2 servers
 - Server Manager allows for easy comparing of settings between 2 servers

ColdFusion 9 Server Manager

- An Adobe AIR base application
- Ability for auto-prompting for updates

The screenshot displays the ColdFusion 9 Server Manager interface. The top navigation bar includes 'Settings', 'Groups', 'Server Tasks', and 'Help'. The main area shows a list of servers under the 'All servers' tab. Each server card displays its name, status (Online), uptime, alerts, warnings, and status (Logged in). The version '9,0,0,241018 - Enterprise (Trial)' is shown at the bottom of each card.

Server Name	Status	Uptime	Alerts	Warnings	Status	Version
site 1	Online	53m 44s	No alerts	No warnings	Logged in	9,0,0,241018 - Enterprise (Trial)
site 2	Online	53m 46s	No alerts	No warnings	Logged in	9,0,0,241018 - Enterprise (Trial)
site 3	Online	5h 35m 36s	No alerts	No warnings	Logged in	9,0,0,241018 - Enterprise (Trial)
site 4	Online	5h 35m 35s	No alerts	No warnings	Logged in	9,0,0,241018 - Enterprise (Trial)
site 5	Online	5h 35m 32s	No alerts	No warnings	Logged in	9,0,0,241018 - Enterprise (Trial)

Server Monitoring

- ColdFusion 8/9 Enterprise
- Flex based application that calls into the ColdFusion 8 server
- Can run local or remote
- Multi-server Monitoring is supported
- Server Snapshot – JVM Stack Trace
- Monitoring
 - active requests, slowest requests, active sessions, cumulative server usage, highest hit counts, template cache status, request throttle data, requests that timed out, requests with errors, and server alerts
- Profiling
 - tag and function timing, Active Requests, active queries, slowest queries, cached queries, query cache status; database pool status; most frequently run queries
- Memory Tracking
 - overall memory usage, queries and sessions that have used the most memory, application and server scope memory
- The performance impact of turning on monitoring and profiling is minimal
- The performance impact of memory tracking can be significant

Server Monitoring

- Request Statistics
 - Active Requests
 - Active ColdFusion Threads
 - Slowest Request
 - Slowest ColdFusion Threads
 - Active Sessions
 - Cumulative Server Usage
 - Highest Hit Counts
 - Template Cache Status
 - Request Throttle Data
- Memory Usage
 - Memory Usage Summary
 - Requests by Memory Usage
 - CF Threads by Memory Usage
 - Queries by Memory Usage
 - Sessions by Memory Usage
 - Application Scope Memory Usage
 - Server Scope Memory Usage
- Database
 - Active Queries
 - Slowest Queries
 - Cached Queries
 - Query Cache Status
 - Pool Status
 - Most Frequently Run Queries
- Errors
 - Requests with Errors
 - Requests Timed Out

CF9 and Performance

- **In-memory files**
 - In-memory files allow you to dynamically generate CFM files and execute them directly from memory
- **Improved Clustering**
 - This release supports serialization of query, array, and datetime types in CFC.
- **Other performance enhancements**
 - Improved CFC performance
 - Faster Java method invocation

CF9 New Integration

- Integration with Apache Solr server
- Integration Office applications with ColdFusion
 - ColdFusion 9 now extends the integration support to OpenOffice and Microsoft Office applications like Excel, PowerPoint, and SharePoint.
- Built-in support for portlet standards
 - CF 9 supports JSR-168, JSR-286, and WSRP specifications.
 - You can now easily build ColdFusion-powered content for leading portal servers
- IMAP support
 - You can query an IMAP server to retrieve and manage mails within multiple folders using the cfimap tag.
- Integration with Hibernate with the ORM Components

CF9 Database Drivers

- DataDirect
 - 4.0 SP 1.
 - •Support for MySQL (Enterprise and Commercial editions), Oracle11g, DB2v9.5, Informix 11, and SQL Server 2008
 - •Support for IPv6
 - •Option to set a default query timeout value
- Datasource is now an optional attribute
 - for the tags cfquery, cfinsert, cfupdate, and cfdbinfo. In CF9 you can specify in the Application.cfc.

CF9 Services






- ColdFusion exposes many existing enterprise services as web services
- You can access these services using SOAP and AMF/Flash remoting
- The following are the exposed services:
 - cfpdf
 - cfImage
 - cfdocument
 - cfmail
 - cfpop
 - cfchart
- You can secure the exposed services to prevent access
 - configuring the client IP address range to which services are accessible.
 - user access control for the services

ColdFusion 9 New Services





CF9 Default and Admin server installed from install

 Macromedia JRun Admin Server	Runs the a...	Started	Automatic	Local System
 Macromedia JRun CFusion Server	Runs the J...	Started	Automatic	Local System

ColdFusion Integration Services

 ColdFusion 9 .NET Service	Lets you a...	Started	Automatic	Local System
 ColdFusion 9 ODBC Agent	Configures...	Started	Automatic	Local System
 ColdFusion 9 ODBC Server	The middle...	Started	Automatic	Local System
 ColdFusion 9 Search Server	Provides s...	Started	Automatic	Local System
 ColdFusion 9 Solr Service	Manages a...	Started	Automatic	Local System

New instances created from ColdFusion Administrator

 Adobe ColdFusion 9 AS CF9_1	J2EE Applic...	Started	Automatic	Local System
 Adobe ColdFusion 9 AS CF9_2	J2EE Applic...	Started	Automatic	Local System
 Adobe ColdFusion 9 AS CF9_3	J2EE Applic...	Started	Automatic	Local System
 Adobe ColdFusion 9 AS CF9_4	J2EE Applic...	Started	Automatic	Local System
 Adobe ColdFusion 9 AS CF9_5	J2EE Applic...	Started	Automatic	Local System

Migrating to CF 9

ColdFusion 9 Migration

- Code Analyzer in CF Admin
- Deploy CF 9 EAR to existing JRun Multi-Server install

Migrating Settings to CF9

- Stop the CF9 server.
- Save settings by copying the files *cf_webapp_root/WEB-INF/cfusion/lib/neo-*.xml* (of previous installation) to a directory named *cfXsettings* (in which *X* is the earlier version of ColdFusion) in the *cf_webapp_new_installation_root_directory/WEB-INF/cfusion/lib* directory.
- Edit the ColdFusion 9 *cfusion/lib/adminconfig.xml* file by setting the value of the *runmigrationwizard* and the *migratecfX* (in which *X* is the earlier version of ColdFusion) switch to true.
- Start the CF 9 Server
- Browse to ColdFusion Administrator to run the migration wizard

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CF9 Server Administration

Q&A