

# Enterprise Class MVC with ColdFusion & Java

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# Goals

- ✦ Leverage Java & Common Java Frameworks to Provide A Modular Business Model.
- ✦ Use ColdFusion 8 & Mach-II to Put a Face On a Spring/Hibernate Powered Java Application



# Introductions



- ✦ Sr. Consultant, Universal Mind
- ✦ UM is a 2007 Inc. 500 Honoree
- ✦ 10+ Years Experience In Software Development
- ✦ ASP --> Java --> ColdFusion --> Flex
- ✦ Multiple Publications on Flex & ColdFusion
- ✦ <http://www.infoaccelerator.net>



# Topics

- ✧ Introduction To Enterprise Software and MVC Concept
- ✧ Building The Java Model
  - ✧ Implementing Spring
  - ✧ Implementing Hibernate
- ✧ Building The Controller and View
  - ✧ Implementing Spring with Mach-II
  - ✧ Implementing The Controller & View



# Enterprise Class MVC

## ✧ **Enterprise Software**

- ✧ Software which provides business logic support functionality for an organization, typically in commercial organizations, which aims to improve the organization's productivity and efficiency.

## ✧ **MVC**

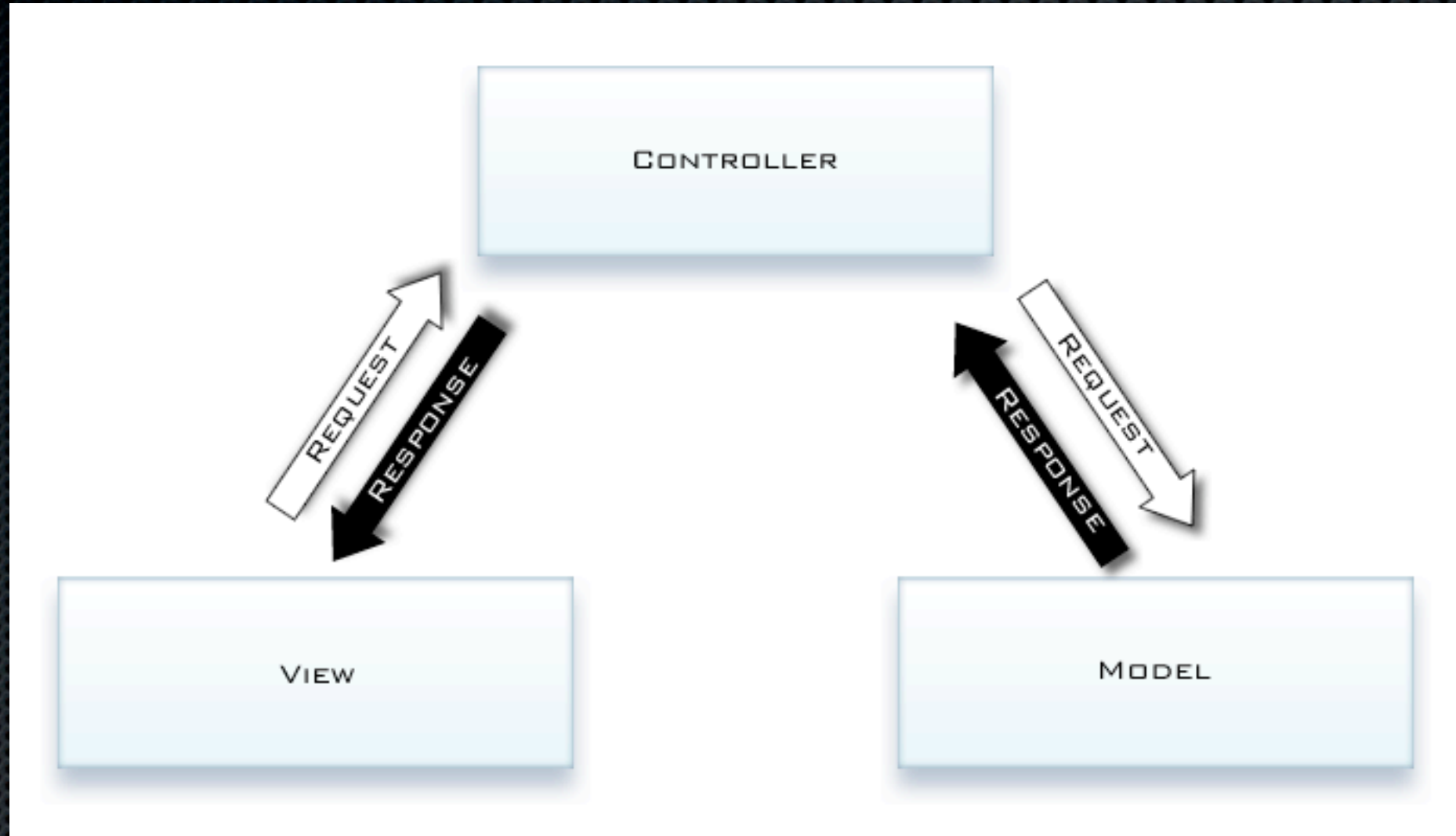
- ✧ Decouples data access and business logic from data presentation and user interaction by introducing an intermediate component: the controller.



# Why Java?

- ✦ Web-Enable Existing Legacy Java Applications
  - ✦ Add a Web 2.0 Interface
- ✦ Portable Applications - Disparate UI Implementations
  - ✦ External: Web - ColdFusion / AJAX
  - ✦ Internal: Swing
- ✦ Right Hammer For The Job
- ✦ It's Faster!
  - ✦ Going “native” to the Java level





# The Concept

## Model-View-Controller





# The Players



# The Environment

- ✧ JBoss 4.0.5 GA - Application Server
  - ✧ ColdFusion 8
    - ✧ Just Another J2EE App
- ✧ Java 1.6.0 - SoyLatte (OpenJDK)
  - ✧ Hibernate 3.2 - ORM Framework
  - ✧ Spring 2.5.0 - IOC/AOP Framework
- ✧ Mach-II 1.5



# Building The Java Model



# Introducing Spring

- ✧ What Is Spring?
- ✧ Spring Provides:
  - ✧ Inversion of Control
  - ✧ Aspect Orient Programming Model
- ✧ Many Sub-Projects:
  - ✧ Spring Security (Acegi Security)
  - ✧ Spring Web Services
- ✧ Basis of ColdSpring Framework

The Spring logo, featuring the word "Spring" in a green, sans-serif font with a small green leaf icon above the 'i', all contained within a white rounded rectangle.



# Spring Basics

- ✧ Configured Via XML
  - ✧ Can Use Multiple XML Files
- ✧ Application Context Loaded At App Startup
  - ✧ Config Defined in web.xml
- ✧ Does Not Provide Data Access, Logging, Transactions, etc.
  - ✧ Provides Interfaces to Existing Libraries
    - ✧ JMS, ORMs, etc.



# Show Me The Code



# Introducing Hibernate

- ✧ What Is Hibernate?
- ✧ Hibernate Provides:
  - ✧ Relational Persistence
  - ✧ Automatic Object and Query Caching
- ✧ Sub Projects:
  - ✧ Shards - Horizontal Data Partitioning
  - ✧ Search - Integration with Lucene
  - ✧ Validator - Data Integrity Validation API
- ✧ Shares A Philosophy with Transfer & Reactor





# Hibernate Basics

- ✧ Configured Via XML or Properties File
  - ✧ hibernate.cfg.xml - config file
  - ✧ myPOJO.hbm.xml - mapping file
    - ✧ Can Also Use Java Annotations
- ✧ Inline, Modular Caching Configuration
- ✧ Inline, Modular Transaction Management
- ✧ Can Also Be Configured in Spring Configuration



Want To See Some More  
Code?



# Building The Controller And View



# What's ColdFusion's Role?

- ✦ Marshaling Data In / Out of Model
  - ✦ Validating Data
  - ✦ Formatting Data
- ✦ Rendering Views



# Problems To Solve

- ✦ How Do We Get Access To The Spring Application Context?
  - ✦ Application Context == Bean Factory
- ✦ How Do We Keep The Session Open Through The View's Completion?



# Where Oh Where Is My ApplicationContext?

- ✦ Loaded at Startup by Application Server
- ✦ Accessible Via ColdFusion
  - ✦ Manage With Mach-II Plugin?
  - ✦ Load Into Session Scope?
  - ✦ Load Into ApplicationScope?



# Solving One Problem With ColdFusion

- ✦ How Do We Get Access To The Spring Application Context?
  - ✦ Via Java:
    - ✦ `WebApplicationContext context = WebApplicationContextUtils.getWebApplicationContext(ServletContext context);`
  - ✦ Via ColdFusion:
    - ✦ `getPageContext().getServletContext()`



# Solving One Problem With Spring

- ✧ How Do We Keep The Session Open Through The View, If Needed?
  - ✧ Open Session In View Filter (OSIV) in web.xml



# Problems Solved, What Next?

- ✧ Time to look at some ColdFusion code...
- ✧ The model is defined already, what's left?
  - ✧ MVC Config - mach-ii.xml
  - ✧ Controller
    - ✧ Listeners
    - ✧ Plugins
    - ✧ Filters
  - ✧ Views



Thank You Sir, May I Have  
Another Demo?



# Drawbacks To This Approach

- ✦ 2 Codebases To Manage
- ✦ Need Java Talent On Team
- ✦ Difficult To Debug



# Advantages To This Approach

- ✦ VERY Portable Application
  - ✦ Easily Port To Flex/AIR via BlazeDS / LCDS
  - ✦ Easily Port To JSP via SpringMVC
- ✦ Guaranteed Optimization of Persistence Calls (SQL)
  - ✦ Can Tune Fetch Methods
- ✦ Easily Scales and Clusters



# Want To Learn More?

- ✦ <http://www.hibernate.org>
- ✦ <http://www.springframework.org>
- ✦ <http://www.mach-ii.com>
- ✦ <http://www.infoaccelerator.net>



# Q & A