

Custom Training Institute

9085 Coyote Springs Road
 Prescott Valley, AZ 86315
 (928) 772-3811
 FAX (928) 441-6444

Fast Track to Spring 2.x (CTI 317)

Students will learn the basics of Spring 2.0/2.5, including the powerful Core module Dependency Injection (DI) capabilities to reduce coupling, and increase flexibility and ease of maintenance. It covers all other important areas of Spring 2.x, including using Spring with JDBC and/or Hibernate, Spring's Aspect Oriented Programming (AOP), Spring Transactions, and solid overviews of Spring MVC (for Web apps) and the new Spring Security capabilities.

Prerequisites: Good familiarity with Java programming. Some familiarity with Java web apps (servlets and HTML), and JDBC is useful.

Minimum software requirements: Java 5 (J2SE 5.0 SDK.), Spring 2.5 distribution (with dependencies), Spring Security 2.0.x distribution, Eclipse 3.4 - Ganymede JEE IDE, Apache Tomcat 6.x.

Minimum hardware requirements: Pentium at 1.5 GHz, 1 Gb RAM; 1 Gb free hard disk space before installation. Internet access.

Adobe Acrobat reader (pdf), Microsoft PowerPoint and Internet access at instructor's workstation for presentation purposes.

Module 1: Introduction

- Overview of Spring Technology
- Shortcomings of Java EE
- Spring Architecture
- Spring Introduction
- Managing Beans
- Configuration Metadata
- The Spring Container
- IoC
- DI
- Dependencies and Dependency Injection (DI)
- Dependency Inversion
- Dependency Injection (DI) in Spring
- DI Configuration
- Advantages

Module 2: More About Bean Properties

- Working with Properties
- Continuing Value Properties
- Property Conversions
- Setter/Constructor Injection
- Collection Valued Properties
- Configuring and Using <list>, <set>, <map>, <props>
- Additional Capabilities
- Factory Methods
- Bean Aliases
- Definition Inheritance (Parent Beans)
- Autowiring
- Using Spring with Hibernate
- Hibernate Template
- LocalSessionFactoryBean
- Hibernate Configuration
- HibernateDataSupport
- Configuring a Hibernate DAO
- Hibernate Template Query Methods
- Using HibernateCallback
- Using Contextual Sessions

Module 3: The Spring Container and API

- ApplicationContext:
 - ClassPathXmlApplicationContext
 - FileSystemXmlApplicationContext
 - Constructors
 - Usage
- Resource Access
 - Overview
 - Resource Implementations
- Bean Scope and Lifecycle
 - Bean Scope Defined
 - Configuring
 - Inner Beans
 - Bean Creation Lifecycle
 - Using the Lifecycle Interfaces (e.g. BeanFactoryAware)
 - BeanPostProcessor
 - Event Handling
- MessageSources
 - Defining and Using Resource Bundles
 - Localization/I18N
- Annotation Driven Configuration
 - @Required
 - RequiredAnnotationBeanPostProcessor
 - Dependency Injection with
 - @Resource
 - @Component
 - Auto-Detecting Beans
 - Other Stereotypes

Fast Track to Spring 2.x (CTI 317) - continued

Module 4: Database Access with Spring

- Issues with JDBC
 - Examination of Typical JDBC Flow
- Introduction to Spring DAO Support
- Spring Database API
 - (Simple) JdbcTemplate
 - (Simple) JdbcDaoSupport
- Data Sources
- Working With and Configuring,
<list>, <set>, With Bean Refs,
<map>, <props>
- Queries and Inserts
 - RowMapper
 - Parameterized RowMapper
 - Passing Arguments
 - queryForObject
 - Query
 - Update
- Additional API Capabilities
 - Additional Query Methods
 - Passing Type Arguments
 - queryForList
 - FetchSize
 - MaxRows

Module 5: Aspect Oriented Programming (AOP)

- Overview of AOP
 - AOP Basics
 - Aspect Joinpoint
 - Advice
 - Pointcut
- Introduction to Spring AOP
 - Capabilities
 - New 2
 - Configuration (XML and @AspectJ)
 - Weaving
 - Joinpoints
- Using Aspects
 - XML Configuration with <aop>
 - Defining Advice
 - Configuring Pointcuts, Targets and
Proxies
 - AspectJ Pointcuts
 - Autoproxies
- Using @AspectJ Annotations
 - @AspectJ Annotations
 - Declaring Advice

Module 6: Spring Transaction (TX) Management

- Introduction to Spring Transaction
Management
- Overview
- Component TX Model
- TX Propagation
- Declarative Transactions
- TransactionManage
- Using Spring Transactions
- Annotation Configured Transactions
- @Transactional and its Settings
- XML Configured Transactions
- New <tx: *> Elements
- Configuring tx:advice and
tx:attributes
- Defining the TX Advisor

Module 7: Overview of Spring Web MVC

- Overview - Capabilities, Architecture
- Introduction to Spring MVC
 - DispatcherServlet
 - Handlers
 - HandlerMappings
 - Command Controllers
 - Commands
 - View Resolvers
- Forms
 - Spring Form Tags
 - Writing/Processing Forms

Module 8: Overview of Spring Security

- Overview - Capabilities, Architecture
- Introduction to Spring Security
 - HTTP Security
 - Method Security
- Authentication Providers