

# The Struts Framework (4 Days)

## Custom Training Institute

9085 Coyote Springs Road  
 Prescott Valley, AZ 86314  
 (928) 772-3811  
 FAX (928) 441-6444

## The Struts Framework (CTI 266)

*JSP and servlet programmers learn how to build "Model-2" Web applications using the Jakarta Struts project from Apache. Students learn the Struts architecture and see how it captures a great deal of pre-existing best practice in Web application Development.*

Prerequisites: Familiarity with Java programming, servlets programming, JSP; basic knowledge of XML.

Minimum software requirements: Java Enterprise Edition Software Development Kit (Java EE SDK). JavaServer Faces (JSF) visual development environment, such as Eclipse, NetBeans or Sun Java Studio Creator. Apache TomCat.

Minimum hardware requirements: Pentium at 1.5 GHz, 512 Mb RAM; 1 Gb free hard disk space before installation. Internet access.

Microsoft PowerPoint on instructor's workstation for presentation purposes.

### Module 1: Struts Architecture

- MVC and Model 2
- Command Pattern
- Jakarta Struts
- More XML, Less Java!
- Action Mappings
- JavaBeans in Struts
- Working with Forms
- Validation
- Presentation Technology
- Tiles

### Module 2: Action Mappings

- Command Pattern for Web Applications
- ActionServlet
- Action and ActionMappings
- Struts Configuration
- Selecting a Forward
- Global Forwards
- Declarative Exception Handling
- Global Exception Handlers

### Module 3: Forms

- Working with HTML Forms
- Action Forms, a/k/a Form Beans
- Relationship to Input
- Relationship to Actions
- Relationship to the Model
- Relationship to Output
- DynaActionForm and Map-Backed Forms
- Validation
- Coarse-Grained Form Beans

### Module 4: Struts Tag Libraries

- Building View Components
- Struts Tag Libraries
- Attributes and Struts Expressions
- Building Forms
- <html:form>
- <html:text> et.al.
- Forms and Form Beans
- Scope and Duration of Form Data
- Managing Hyperlinks
- Error Messages
- Logic Tags

### Module 5: The JSP Standard Tag Library

- JSTL Overview
- JSP Expression Language
- Core Tags
- Formatting Tags
- SQL Tags
- XML Tags
- Mixing JSTL, EL, Scripts and Actions
- Indexed Properties and Struts HTML Forms

### Module 6: Internationalization and Localization

- i18n in Java
- i18n in Actions
- i18n in JSTL
- i18n in Validation

## The Struts Framework – (CTI 266) - continued

---

### Module 7: Input Validation

- Validation in Web Applications
- Validation in Struts
- The Struts Validator Plug-In
- Validating ActionForm Subtypes
- Configuring Validation
- Standard Validators
- Rules
- The ActionMessages Class
- Is <html:form> Necessary?
- Reporting Errors
- Multi-Page Validation
- Client-Side Validation
- Limitations on the Client Side
- Implementing a Validator
- Implementing ActionForm.validate
- Mapping-Based Validation

### Module 8: Advanced Configuration

- Struts Configuration in Depth
- Wildcards
- Extensions
- The Configuration Object Model
- Subclasses and <set-property>
- Plug-Ins
- Integrating Other Frameworks
- Role-Based Security
- Chaining Actions
- The ComposableRequestProcessor Class
- Configuring Command Chains
- Modules

### Module 9: Under the Hood

- Global Objects
- Specialized Struts Actions
- The Utility Package
- The Commons BeanUtils Class
- Form Beans as Adapters to the Business Tier
- Reusing Validation Rules
- Graceful Validation

### Module 10: Tiles

- Consistent Look and Feel
- Reusable Layouts and Content
- The Tiles Framework
- Instantiating Layouts
- Body-Wrap Insertions
- Tiles and Stylesheets
- Working with Tiles Attributes
- The Tiles Context
- Definitions
- Aggregation and Inheritance
- The Tiles Plug-In
- Forwarding to Definitions
- Performance Considerations

### Appendix A: Learning Resources

### Appendix B: Quick Reference