

APACHE STRUTS

Open-source framework for creating Java
web applications

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Introduction

- ▣ Open-source server-side Java framework
- ▣ Used to develop web applications
- ▣ Based on MVC architecture

History and Versions

- ▣ Initially developed by Craig McClanaha
- ▣ Taken over by Apache Software Foundation in 2002. Made open-source
- ▣ Struts 2 is the latest version available
 - Uses donated WebWorks code was brought in as part of it
 - Stable and designed to be easier
- ▣ Struts 1 is not obsolete and will be supported for many years

Main Concepts

- ▣ Implemented as a server-side Model-View-Controller
- ▣ Combination of JSP's, JSP tags, and Java servlets
- ▣ Does not provide an specialized model components

Controller

- ▣ Backbone of all Struts applications
- ▣ Implemented as a servlet named “ActionServlet”
- ▣ Receives all requests from the client
- ▣ Delegates each request to appropriate Action class
- ▣ The Action class handles the request, then passes a key back to the ActionServlet
- ▣ ActionServlet determines what View to display as result

View

- ▣ Implemented by JSPs, custom tag libraries, and ActionForm objects
- ▣ JSPs have two purposes:
 - Act as a presentation layer to previously executed Controller Action
 - Gather data required to perform some specific Controller Action

Main Services

- ▣ Ability to accomplish one of the main aspects in OO programming: **reusability**
- ▣ Provides a group of cooperating classes, servlets, and JSP tags that are used as an infrastructure for user input validation, error handling, and flow control
- ▣ Gives people of different backgrounds the benefit of working in parallel

Struts as an MVC

- ▣ Reliability
- ▣ High reuse and adoptability
- ▣ Low cost
- ▣ Rapid deployment and maintainability

Struts as a framework

- ▣ Form bean
- ▣ Bean Tags
- ▣ Form Field Validation

Software Demo

Conclusion

- ▣ Pros:
 - Tag library
 - Open source
 - Sample MVC implementation
 - Good space management

Conclusion

- ▣ Cons
 - Correct level of Abstraction
 - Limited scope
 - Complexity