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
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 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
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

Apache Struts
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
Pros:
- Tag library
- Open source
- Sample MVC implementation
- Good space management
Cons

- Correct level of Abstraction
- Limited scope
- Complexity