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

Conlusion

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