



IBM JZOS Meets Web 2.0

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Abstract

- The development and deployment of rich web applications on z/OS will be discussed including:
 - Using JZOS (part of the IBM z/OS Java SDK) in a z/OS web container
 - Developing rich browser clients in toolkits such as Adobe Flex/Flash, Dojo, Google GWT, etc.
 - Deploying rich client web applications on z/OS as interfaces to legacy systems
 - Demos



What is Web 2.0?

“A piece of _____”

Web 2.0 Working Definition



“A piece of jargon”

--Tim Berners-Lee

"Nobody really knows what it means...If Web 2.0 for you is blogs and wikis, then that is people to people. But that was what the Web was supposed to be all along."

For our discussion, we mean “Rich Internet Application” (RIA)

- Rich front end (usually Javascript)
- XML HTTP wire protocol
- Web Service backend



RIAs From Scratch

- Asynchronous JavaScript and XML (AJAX)
- RYO RPC and Wire Protocols
- Low level Browser DOM manipulation
- Hand coded Cascading Style Sheets (CSS)
- Subtle, pernicious Browser implementation differences

Avoid at all costs, if possible!



RIA Toolkits

- Popular Toolkits include:
 - JavaFX
 - Google Web Toolkit (gwt)
 - Microsoft Silverlight
 - Dojo
 - Adobe Flash / Flex
- Runs in browser
- Most are implementations of AJAX
- Lookout for the effects of HTML 5



Google Web Toolkit

- Java-to-JavaScript compiler
- Various IDE plugins, including Eclipse
- Very efficient edit / publish / debug cycle
- Used in many popular, proven web applications
 - Gmail / Calendar / Reader
 - Google Adwords
- Web UI class libraries
 - Base GWT widgets
 - MyGWT
 - GWT-ext

Adobe Flash / Flex



- Flash player ubiquitous almost every platform
 - (except iPhone, iPod Touch and iPad)
- Huge number of applications
- Flex SDK
 - Compiler and Class Libraries
 - Can be used to build Flash applications
 - Open source
- Flex Builder
 - Proprietary (\$\$) development environment
 - Available as an Eclipse plugin

Dojo



- Features
 - Open source JavaScript library
 - Wide selection of widgets
 - Well developed CSS themes
- Endorsed by IBM
- Works best with JSON data representation
- Available via convenient CDN (Google, AOL)
 - But customized versions possible
- Documentation improved significantly with newer releases

z/OS Considerations



- Web Developers prefer mainstream tools
 - IDE for Java / JavaScript / XML
 - Workable edit / deploy / debug cycle
- Be able to access z/OS system services
 - Jobs, Datasets, Catalogs, etc...
- Resource management
 - Performance
 - zAAP Usage



JZOS Cookbook Tools and Resources

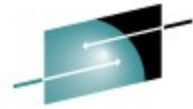
- IBM's Java SDK (includes JZOS Toolkit)
- IDE
 - Eclipse
 - Rational Developer for System z
- Ant
- Ajax toolkits
 - Adobe Flex SDK (optionally add Adobe Flex Builder)
 - Dojo SDK
- Application Server
 - WebSphere
 - Tomcat
- JZOS Cookbook

Development Environment Setup



- Basic steps:
 1. Download and extract the Flex SDK from adobe.com
 2. Install and start Tomcat on z/OS
 - Use T:Z for ultra fast installation
 3. Install Eclipse
 4. Import the JZOS Cookbook web-project from alphaWorks
 5. Edit **build.properties**
 6. Run Ant deploy script
- JZOS Cookbook contains complete installation guide

Demos



S H A R E
Technology • Connections • Results

Summary



- Rich Internet Applications *can* be written for z/OS
- Standard tools -- customized for z/OS -- can significantly increase productivity
- The JZOS Cookbook provides:
 - Development Tool Installation and configuration instructions
 - Sample z/OS CatalogSearch Rich Web Application
- T:Z makes quick work of installing and running Apache Tomcat on z/OS
- Get started without spending any money!

Resources



- IBM's Java SDK (Includes JZOS Toolkit): <http://www.ibm.com/servers/eserver/zseries/software/java/>
- Eclipse: <http://eclipse.org/>
- Adobe Flex SDK: <http://www.adobe.com/products/flex/>
- Dojo: <http://www.dojotoolkit.org/>
- Apache Tomcat: <http://tomcat.apache.org/>
- T:Z: <http://www.dovetail.com/products/tomcat.html>
- JZOS Cookbook, JZOS Toolkit (alphaWorks version): <http://www.alphaworks.ibm.com/tech/zosjavabatchtk/download>
- Rdz (\$\$): <http://www.ibm.com/software/awdtools/rdz/>
- WebSphere (\$\$): <http://www.ibm.com/software/websphere/>
- Adobe Flex SDK and Builder (\$\$): <http://www.adobe.com/products/flex/>

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