Using Eclipse to Develop AJAX Applications (ATF and JSDT)

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Agenda

- Overview
- ATF Architecture
- Installing ATF
- Configuring ATF
- ATF Components
- How you can use ATF Technology
- Where to get ATF
Overview

- ATF is an
  - Integrated Development Environment (IDE) for AJAX developers
  - Extensible framework for adding AJAX toolkits and JS libraries into the IDE

- ATF Provides
  - Tools to develop any DHTML/AJAX application
  - Tooling to facilitate use of various AJAX toolkits and JS libraries
  - Tight integration with the existing Eclipse user interface and development paradigm

- ATF aims to continue to provide high-function tools for AJAX and DHTML developers
- ATF tooling is available for web pages as well as projects
- ATF is included by a number of companies (Aptana, Borland, etc.)
- ATF is currently in incubation on Eclipse.
ATF is a set of about 20 Eclipse plug-ins plus Mozilla XULRunner and JavaXPCOM.
Installing ATF

- **ATF Unzip Packages**
  - Two packages available
    - WST only
    - WST and JST (J2EE support).

- **ATF Archive Site Zip**

- **All-in-one Packages**
  - Windows (XP), Linux (32 bit), Mac OS X
  - Requires a Java 5 JRE to be installed separately
  - Contains only the Eclipse/ATF functionality needed by the Web Developer
    - Web Development and Web Tools Perspectives
    - Views and Menus only needed by Web Developers.
      - No Java Development Tools and Java Enterprise Editions (JSPs, JSF, etc.)
Configuring ATF

- Install AJAX Runtimes or other JS Libraries (optional)
  - Ability to configure and use most AJAX Runtimes
  - Runtimes need to be manually downloaded
    - ATF doesn’t ship AJAX runtimes!
  - AJAX Runtimes are optional
  - ATF tooling useful for JavaScript/DHTML development

- Ajax Toolkit Project
  - Wizards to create a AJAX Project and configure an AJAX Runtime
  - Web Tools Static and Dynamic Web Projects are also supported
    - Add ATF Support as a facet
ATF Components

- JavaScript™ Development Tools (JSDT)
- JavaScript™ Debugger
- Mozilla SWT Browser Widget
  - JavaXPCOM
  - Full DOM access
- Browser Tooling
  - DOM Inspector
  - Browser Console
  - Request Monitor
  - CSS Tools
JavaScript Development Tools

JavaScript Development Tools (JSDT)

✓ A new WST component to provide robust JavaScript Tooling
  - Real JavaScript Model
  - Enhanced code completion
  - Enhanced Outline view
  - Code formatting
  - Code refactoring
  - “Language level” searching
  - etc.

✓ Provide JDT level of functionality for JavaScript.

✓ Usable as a stand alone editor and integrated into WTP
JavaScript Debugger

- Full featured debugger
- Breakpoints in HTML and JavaScript files
- Debug Views for JavaScript
  - Call Stack
  - Variables
  - Breakpoints
  - Scripts View
- Expression Support
- Suspend on
  - start, errors, exceptions, debugger keyword
Mozilla SWT Browser Widget

- Mozilla technology integrated into Eclipse using XULRunner
- Provides the engine for AJAX Tooling
  - JavaScript Debugger
  - Browser Tooling
- Uses JavaXPCOM to access browser APIs
- Browser Widget (and JavaXPCOM) can be used separately from ATF
Browser Tooling (DOM)

- **DOM Inspector**
  - Shows the DOM tree rendered by the Browser
  - Dynamically updated to reflect changes within the browser
  - Attributes of a node can be edited, added to, and removed
  - A breadcrumb trail of hyperlinks is created for the node's path

- **DOM Source**
  - Displays the HTML source of the selected DOM node
  - Source can edited, validated, and updated back to the browser
  - Notification of a DOM element's source being out of sync with the browser

- **DOM Watcher**
  - Watch events for a selected node.
Browser Tooling (CSS)

- **Style Rules**
  - See Implicit vs. Explicit
  - Edit, add, delete properties
  - Highlight DOM elements that correspond to rule/property
  - Open corresponding CSS file

- **Computed Styles**
  - Every style rule computed by the browser

- **Box Model**
  - Dimensions, x-y coordinates, padding, border, margin

- **Diffs**
  - Shows changes made to CSS rules and properties
  - Cut and paste to your web application
Browser Tooling (Misc)

- **Browser Console**
  - Shows all browser (i.e. JavaScript, CSS) errors, warnings, and logging messages
  - Double clicking on an error opens to the relevant line of code

- **Request Monitor**
  - Observe HTTP request/response information
  - Formatting of the response body based on content-types

- **JavaScript Eval view**
  - Interactive JavaScript Evaluation
How You Can Use ATF Technology

- Embed the Mozilla SWT Browser Widget

- Access all Mozilla Public Interfaces via JavaXPCOM

- Use the browser tools in your application

- Use JSDT as your JavaScript editor
Project Status

➢ We need more AJAX Developers using this tool!
  ✔ Tell us what you like or dislike
  ✔ Enhancements that should be made.
  ✔ Want an active and vibrant user community

➢ Looking for Contributors
  ✔ The team is stretched
  ✔ Small team needs help to move the project forward
Where to go for more information

- **Website**
  - [http://www.eclipse.org/atf](http://www.eclipse.org/atf)

- **Newsgroup**
  - [news://eclipse.org.webtools.atf/](news://eclipse.org.webtools.atf/)

- **Listserv**
  - [atf-dev@eclipse.org](atf-dev@eclipse.org)

- **Milestones and “Weekly” builds**

- **Demo Movies and Presentations**

- **Source code in Eclipse CVS**
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