Using Eclipse to Develop Ajax Applications (ATF and JSDT)

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Agenda

- Overview
- ATF Architecture
- ATF Components
  - Ajax Toolkit and JS Library Support
  - JSDT
  - Mozilla Browser Tools
- How to get ATF
- Project Status
- Where to go for more Information
Overview

- ATF is an Integrated Development Environment (IDE) for JavaScript 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 currently in incubation on Eclipse.
ATF is a set of about 20 Eclipse plug-ins plus Mozilla XULRunner and JavaXPCOM.
ATF Components

- Ajax Toolkit and JS Library Support
- JavaScript™ Development Tools (JSDT)
- Mozilla Browser Tools
  - JavaScript™ Debugger
  - Mozilla SWT Browser Widget
  - Browser Tooling
    - DOM Inspector
    - Browser Console
    - Request Monitor
    - CSS Tools
Ajax Toolkit and JS Library Support

- Can Install Ajax Toolkits or other JS Libraries (optional)
  - Designate which toolkit/library to use when creating project
  - Files are automatically copied
  - Toolkits/libraries need to be manually downloaded
    - ATF doesn’t ship any 3rd party code
  - Still need to add “script” tag to file

ATF tooling is useful for ANY JavaScript/DHTML development
JavaScript Development Tools

JavaScript Development Tools (JSDT)

✓ Provides robust JavaScript Tooling
  - Real JavaScript Model
  - Enhanced code completion
  - Enhanced Outline view
  - Code formatting
  - Code refactoring
  - “Language level” searching
  - etc.

✓ Based on the Java Development Tools (JDT) editor

✓ Usable as a stand alone editor or integrated into the Web Tools Project (WTP)

✓ Soon to be a part of WTP
Mozilla SWT Browser Widget

- Mozilla technology integrated into Eclipse using XULRunner
- Provides the engine for
  - JavaScript Debugger
  - Browser Tooling
- Uses JavaXPCOM to access browser APIs

![Image of the Mozilla SWT Browser Widget](image-url)
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
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
Browser Tooling (DOM)

- **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
Browser Tooling (CSS)

- **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
Browser Tooling (Misc)

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

- **JavaScript Eval view**
  - Interactive JavaScript Evaluation
How to get ATF

http://www.eclipse.org/atf/downloads/

- **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
    - No Java Development Tools

- **ATF Unzip Packages**
  - Two packages available
    - WST (Web Standard Tools) only
    - WST and JST (J2EE Standard Tools)

- **ATF Archive Site Zip**
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 (Eclipse developers)
  - 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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