



EclipseWorld 2007  
November 6-8, 2007



# How to Create Web Applications with Eclipse

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This presentation is available on the [WTP Presentations Page](#)

# Outline

- Overview of Web related projects at Eclipse
- Focus on WTP
  - Version 2.0 (June, 2007)
  - Version 3.0 (June, 2008)
- How I use Eclipse tools

# Overview of Web related projects

- WTP
- PDT (PHP)
- JPA Runtime (Eclipse Link)
- SAO (and STP)
- RAP
- Server Side Eclipse

# Related Eclipse World Talks

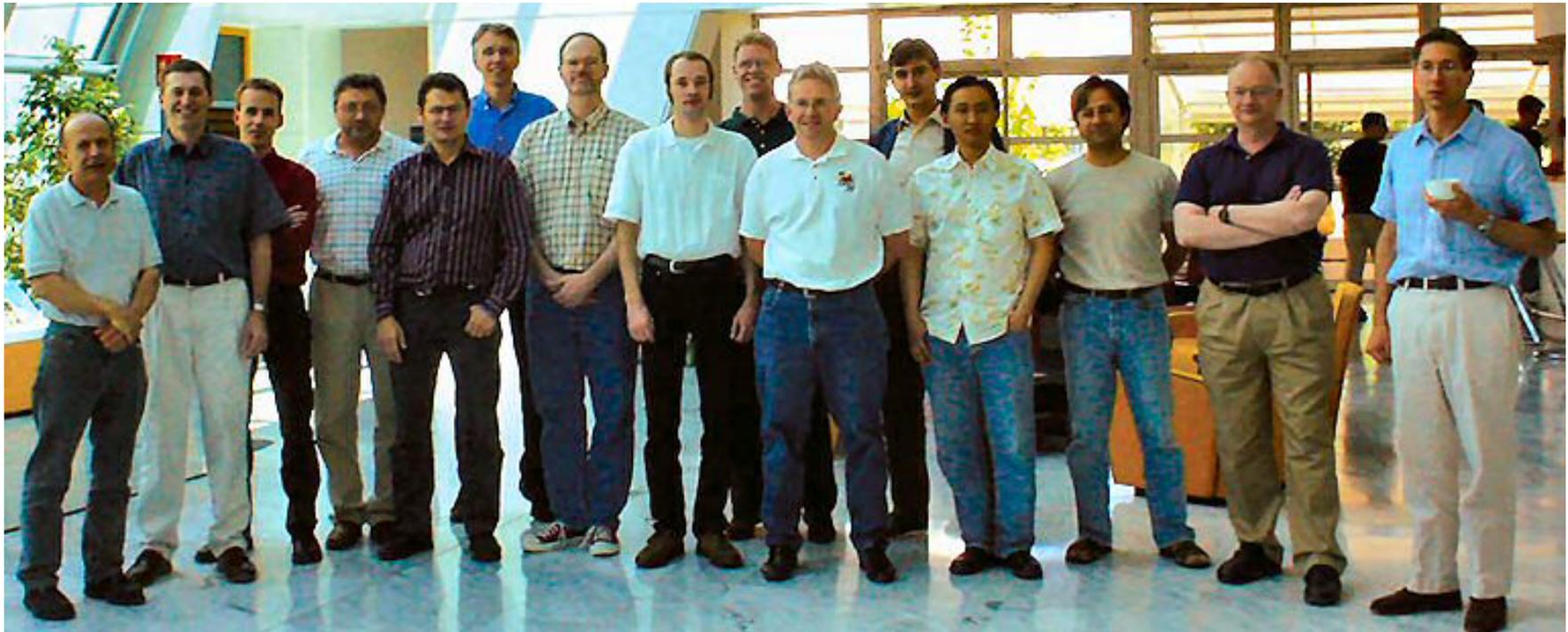
- Wednesday, Nov. 7, 11:00 am – 12:15 pm  
**202 Eclipse AJAX Frameworks: RAP and ATF**  
By Barry Burd
- Wednesday, Nov. 7, 11:00 am – 12:15 pm  
**203 How to Develop Web Service Applications in Java**  
By Rami Jaamour
- Thursday, Nov. 8, 8:30 am – 9:45 am  
**503 Introduction to Developing, Debugging and Profiling Java EE Applications**  
By Tim McConnell
- Thursday, Nov. 8, 8:30 am – 9:45 am  
**504 Developing Rich Internet Applications With JSF and AJAX**  
By Max Katz
- Thursday, Nov. 8, 10:00 am – 11:15 am  
**605 Developing and Deploying With the IBM Open Source Platform**  
By Ethan Shore
- Thursday, Nov. 8, 11:30 am – 12:45 pm  
**706 Using Eclipse to Build Web 2.0 Applications With JSF, Seam and AJAX**  
By Max Katz
- Thursday, Nov. 8, 2:00 pm – 3:15 pm  
**803 Rapid AJAX Web Application Development With JBoss Seam and Eclipse**  
By Marshall Culpepper

# WTP Overview

- History
- Sub projects
- Distributions
- Function

# In the beginning ....

- Grenoble Summit, 2004



# History

- June, 2003 – Original announcement of project forming
- June, 2004 –The Grenoble Summit - 25 participants
- July, 2005 – 0.7 Release WTP 0.7, July 2005
- WTP 1.0, December 2005
- WTP 1.5, June 2006 – Callisto
- WTP 2.0, June 2007– Europa
- WTP 3.0, June 2008 – Ganymede

# WTP projects

1. **Common:** Common tools and infrastructure (things not web tools specific, but need by other projects in WTP)
2. **Server Tools:** tools and infrastructure to define and interact with servers.
3. **Source Editing:** xml, dtd, xsd, html, css, javascript, jsp, sse
4. **Web Services:** wsdl, axis1, axis2, web services framework, web services explorer
5. **Java EE Tools:** Common Project Infrastructure, JEE models, preferences, classpath model, publish api, refactoring
6. **EJB Tools:** Enterprise Java Bean wizards, preferences, future annotation tools
7. **JSF:** infrastructure and tools for Java Sever Faces
8. **Dali (JPA Tools):** infrastructure and tools for the Java Persistence API
9. **ATF (incubating):** infrastructure and tools for Ajax
10. **WTP Incubator**
  - XSL

# Other WTP project talks

- Thursday, Nov. 8, 10:00 am – 11:15 am  
and 11:30-12:45  
**607 Developing SOA-Ready Java Web Applications**  
**By Naci Dai**
- Thursday, Nov. 8, 2:00 pm – 3:15 pm  
**804 Building Great JavaServer Faces Applications With Eclipse Tools**  
**By Raghu Srinivasan**
- Thursday, Nov. 8, 4:00 pm – 5:15 pm  
**902 Using the Java Persistence Applications With Eclipse JPA and Dali**  
**By Neil Hauge and Doug Clarke**

# WTP Distributions

- ~~WTP all-in-ones~~
- Eclipse IDE for Web/JEE Developers
- WTP components
- XML Tools
- JavaScript Tools
- ?

# WTP Functionality

- But, first ...
  - Why bother with an IDE?
    - Productivity
  - Where is productivity needed?
    - Requirements
    - Design
    - Team Collaboration
    - Implementation
    - Testing
    - Deployment
    - Maintenance
- WTP addresses Implementation and some on Testing
- Many commercial adopters of WTP address more areas

# General forms of productivity aides

- Quick start
  - ease of install
  - ease of integration
- User Guidance and Education
  - help information
  - tutorials
- User Customization
  - Preferences
  - Snippets
  - Templates

# Specific forms of implementation productivity

- Generating Code
  - Wizards
  - Templates
  - Cheetsheets
- Changing/fixing Code
  - Editing
    - Content Assist
    - Quick Fix
    - Snippets view
    - WYSIWYG
  - Property pages
  - Debug on Server

# Specific forms of testing productivity

- Validation
  - Errors
  - Warnings
  - Compliance
- Run/Debug on Server

# WTP 2.0

- WTP Gets better!
  - Java EE 5, JSP Tools
  - Server Tools
  - Web Services and WSDL Tools
  - HTML, CSS, and JavaScript Tools
  - XML, XML Schema and DTD Tools
- And offers more
  - JSF
  - JPA

# JSP Editing

- More extensive support for tags
  - Custom tag files (.tag)
  - URI content assist
  - Validation
  - Hyperlinking custom tags
- Better Control over validation
  - Separate JSP Content Validator

```

<%@ taglib
    tagdir="/WEB-INF/tags/scopes"
    prefix="scopes" %>

<scopes:simple param="5">
<%= NV %>
</scopes:simple %>

```

The simple tag adds 3 variables to the Java sources, BN, EV, and NV for valid after the beginning and end tags and only valid when nested, respectively.

Press 'F2' for focus.

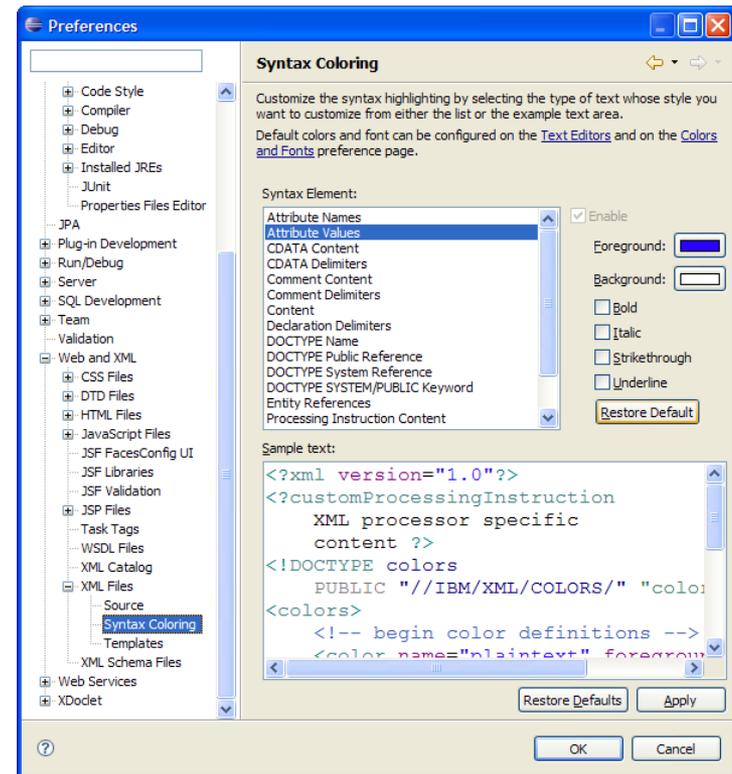
The selected validators will run when validation is performed:

Validator	Manual	Build	Settings
Application Client Validator	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Connector Validator	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
DTD Validator	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
EAR Validator	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
EJB Validator	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
HTML Syntax Validator	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>JSP Content Validator</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
JSP Syntax Validator	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
ModuleCore Validator	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
War Validator	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
WSDL Validator	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	...
WS-I Message Validator	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	...
XML Schema Validator	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	...
XML Validator	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Enable All    Disable All

# SSE - Structured Source Editing

- Better coloring, formatting
- Spell check
- XML, XML Schema and DTD Tools
  - The basis for many other tool

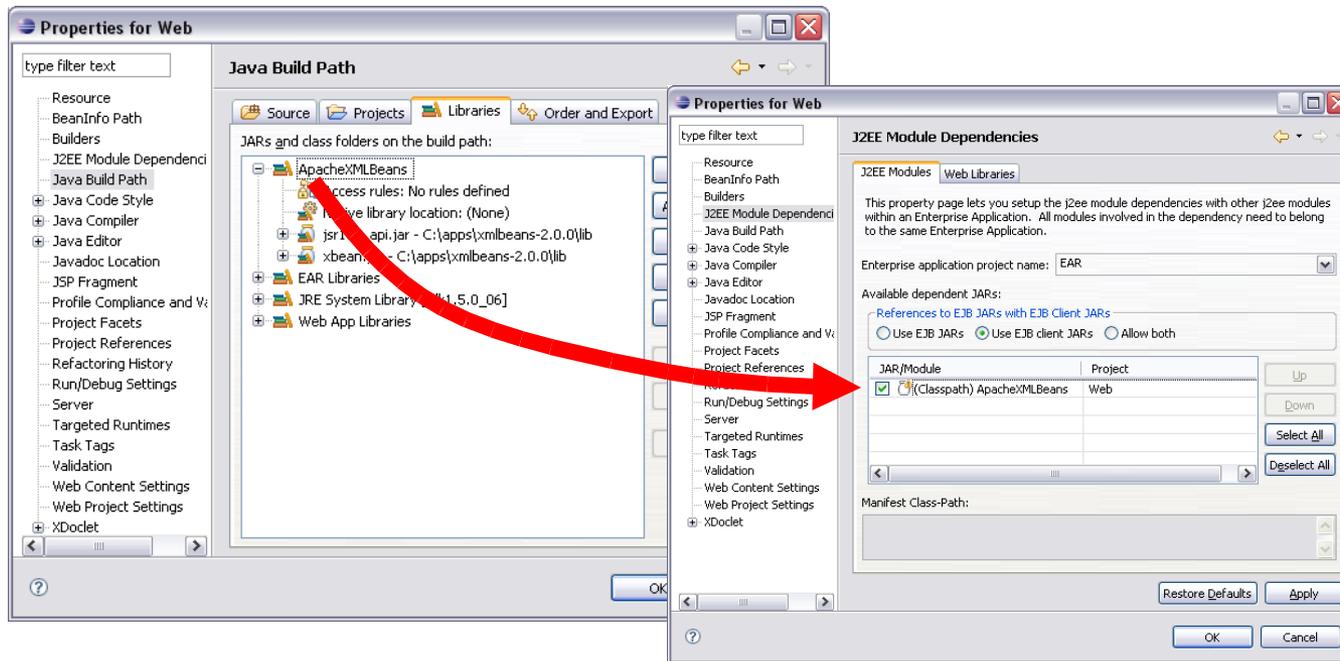


# Java EE 5

- Support for deploying Java EE 5 Projects and Servers
  - Servlet 2.5
  - EJB 3
  - EAR 5
  - JPA

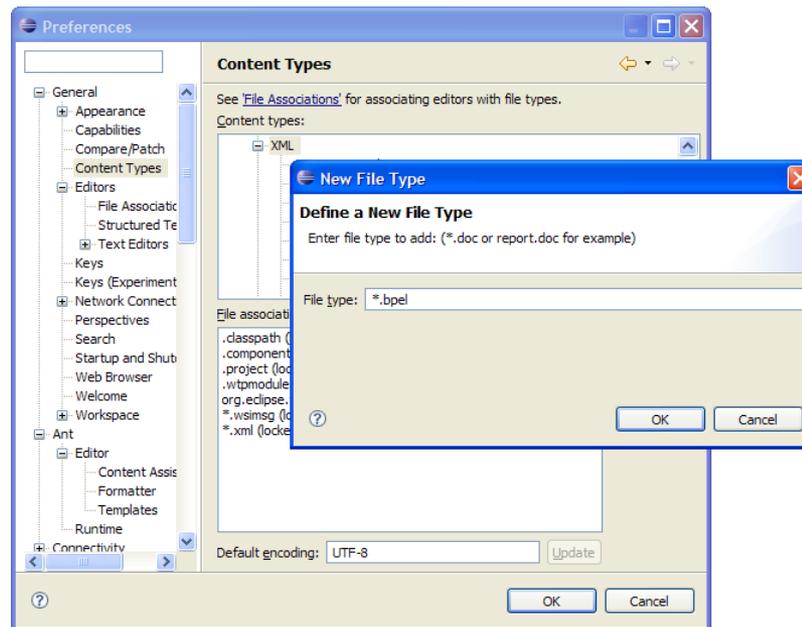
# Module Dependency and Classpath Management

- **Enhanced J2EE Module Dependencies**
  - Entries on the Java Build Path can now be added to the published structure of J2EE module projects



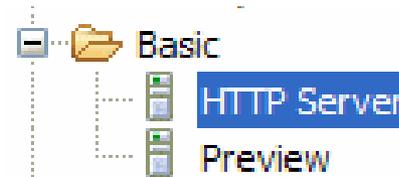
# Enhanced Validation Framework

- Validators can be associated with content-types
  - additional filename added to content types on the Content Type preference page gets validated by their respective validators



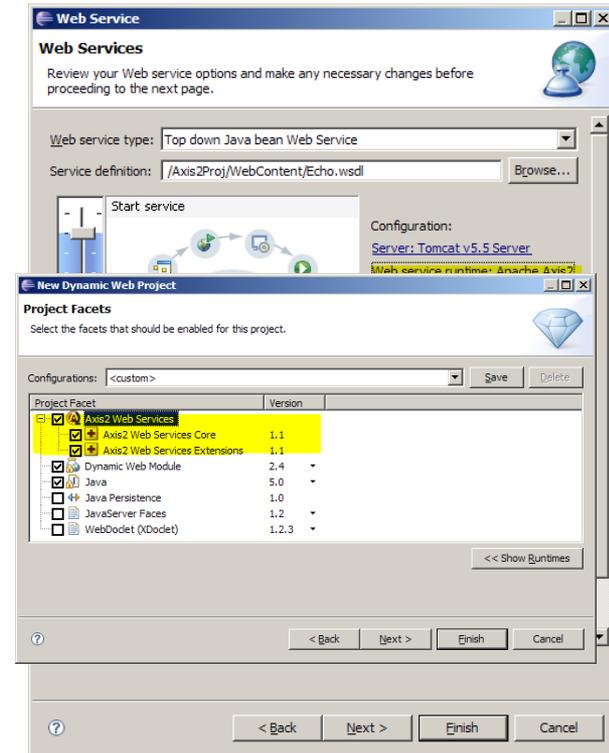
# Server Tools

- Better and faster publishing of large projects
  - 70-90% Better Performance
- New server adapters
  - Basic HTTP Server
    - For non-java content
  - JavaEE Preview Server
    - (Embedded Jetty)
    - Run a web application quickly, without waiting to download or install an external server? The new Preview server allows you to do exactly that - it supports static and dynamic web apps
    - Tomcat 6 and others
      - More control over configuration
- Better house keeping (Clean servers / work directories)



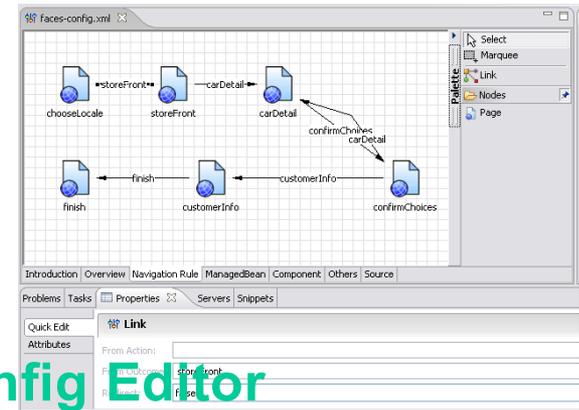
# Web Services

- Axis2 Web Services tools
  - Web services tools now supports the Axis2 version 1.2 Web services runtime
- Axis 1.4 is also supported
- Enhanced Web Services Explorer
  - Soap Headers
- Better Extensibility
  - Transport
  - Message Types

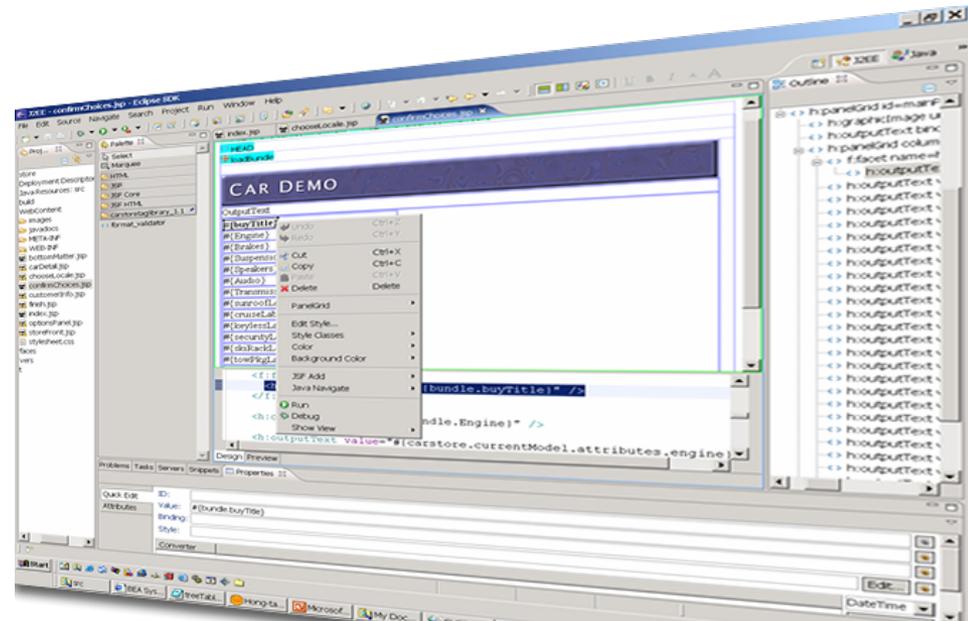


# JSF Tools

- Support for JSF 1.1 and 1.2
- JSF-JSP Source Editor Features
  - Enhance productivity for JSF users
  - Simplify JSF tooling extensions for 3rd party adopters
- Examples of user functionality:
  - Component palette
  - Content assist ( Bean Tags)
  - Quick Assist and Quick Fix
  - Hyperlink
  - JSF page validation
  - Refactoring support
  - JSF Search Page
  - Visual editor for page flow
  - Faces-Config Editor
- JSF library registry



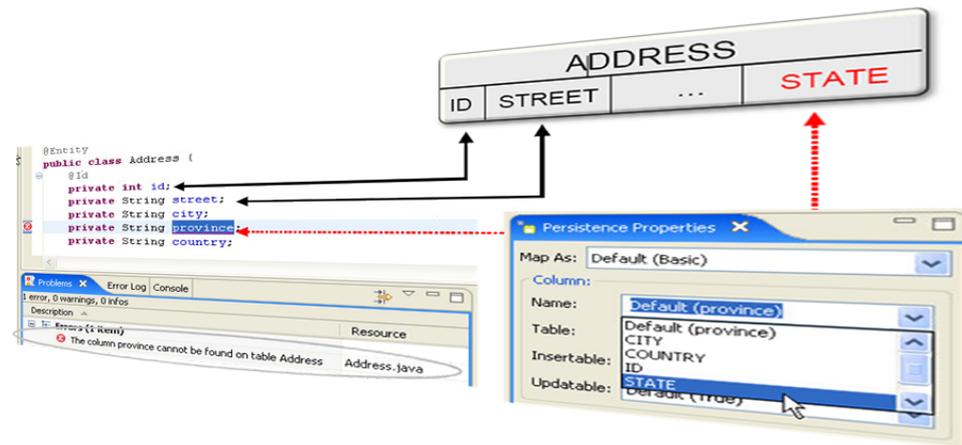
Faces Config Editor



## Web Page Editor

# JPT (Dali)

- Support JPA 1.0
  - JPA supports “The Persistence of Memory”.
  - Dali provides end user tools and APIs to build JPA applications
- Essential JPA and Dali
  - JPA Object-Relational Mappings
  - The JPA Programmer API
  - Deployment Configuration
- Support multiple runtimes
- JPA runtimes are open source:
  - EclipseLink (TopLink Essentials)
  - OpenJPA
  - Hibernate Entity Manager



# WTP 3.0 Plans

- June, 2008
- See [WTP 3.0 Requirements](#)
- Incremental additions to function
- Usability and performance
- Improved Javascript!

# WTP 4.0 Plans?

- June, 2009?
- JEE 6
- JSF 2.0
- XHTML 2.0

# How I use Eclipse

(for web related work)

- Install
  - Europa package:
    - **Eclipse IDE for Java EE Developers**
  - PHP Development Tools from update site
    - Add new remote site
    - <http://download.eclipse.org/tools/pdt/updates/site.xml>
  - Shell Editor
    - <http://sourceforge.net/projects/shelled/>
  - Target Management (RSE)
    - <http://www.eclipse.org/dsdp/tm/>

# How I use Eclipse

## Servers Installed

- apache-tomcat-5.5.17
- apache-httpd-2.0.55 (plus PHP 5.x)
- Xampp
  - Apache, MySQL, PHP
  
- apache-geronimo-tomcat6-jee5
- Derby
- Websphere

# How I use Eclipse

## Small Example Demos

- XHTML and CSS
  - Separate data and presentation
    - Designing with Web Standards, Jeffrey Zeldman
    - [A List Apart](#)
    - [CSS Zen Garden](#)
- PHP
  - My favorite necessary evil
- XML/XSL
  - Separate data and presentation
- JSP
  - Separate data and presentation

# Thank you

- Questions?

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