

JDeveloper 10g and Oracle ADF: More Visual and Flexible Than Ever

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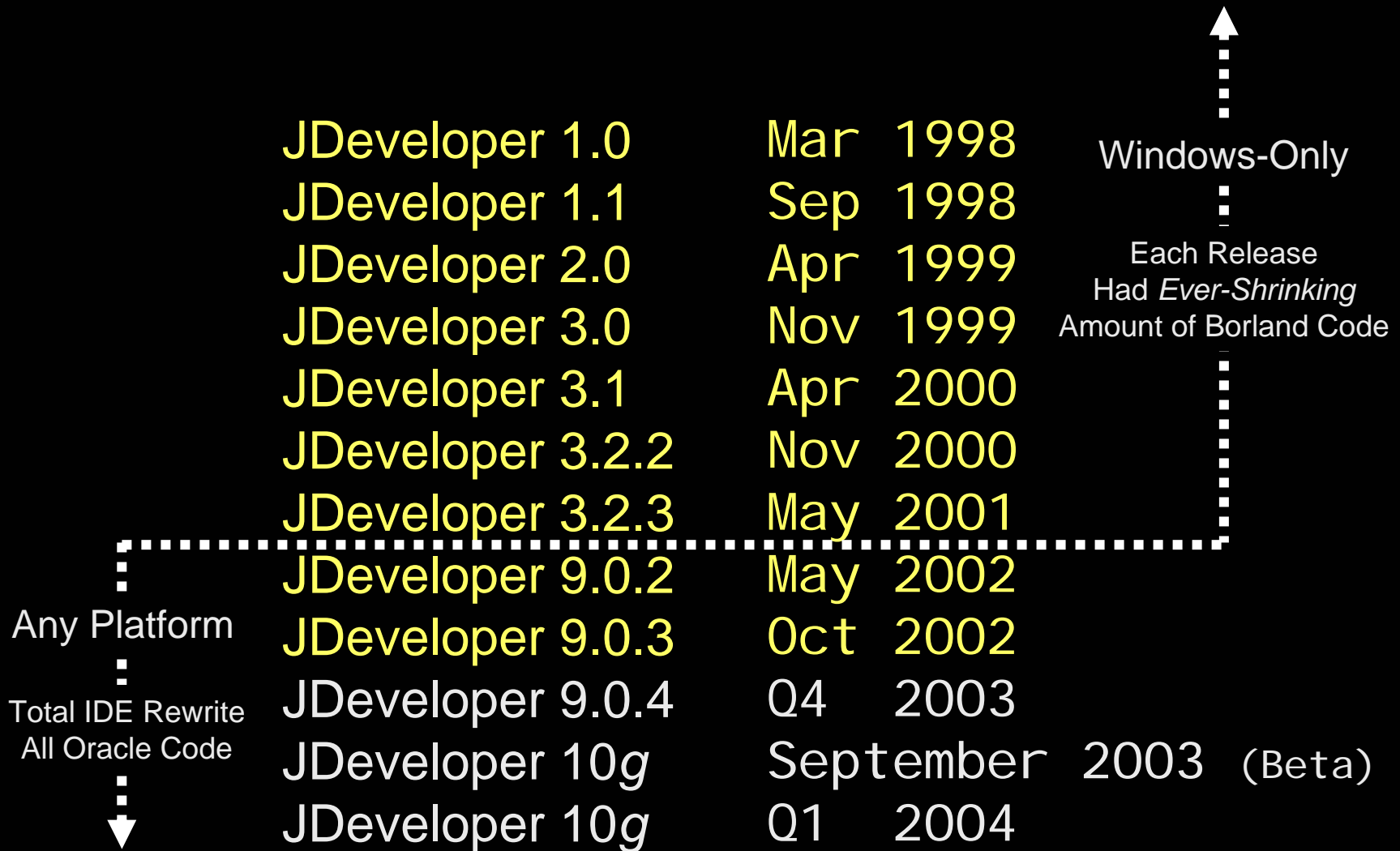


September 23, 2003
NYOUG

Unwavering Vision for JDeveloper

- Comprehensive Development Environment
 - Full Lifecycle Under One Roof
 - UML Analysis to Debugging, Profiling, Deployment
- High Developer Productivity
 - J2EE Experts & Business Application Developers
 - Oracle Apps Self-Service Teams (> 1500 developers)
- Visual, Declarative Option for Everything
 - Supplement Declarative with Code When Needed
 - Support a Full Throttle Code-Based Approach if Desired
- All Languages for Oracle-based App Development
 - Java, PL/SQL, SQL, XML
 - Emerging Support for Scripting Languages Like PHP, Perl
- Great Support for J2EE Standard & Platforms
 - Especially Optimized for Oracle Apps Server and Database
 - Supports Any Standards-Compliant App Server, Database

History of the JDeveloper Product



Agenda for Today

- Overview of New JDeveloper 10g Features
 - For Application Developers
 - For Java Coders
 - For SQL Developers
 - For UML Modeling
- Building Your First J2EE App Step by Step
 - See the Features in Action
- Where is JDev Going in Future Releases?
 - A Few Ideas of What We're Working On Next

More Visual Development

Improved Window Management

The screenshot displays the Oracle JDeveloper 10g IDE interface for editing an XML Schema (movies.xsd). The main workspace is divided into several panes:

- Applications - Navigator:** Shows the project structure with Application Sources, Web Content, and Miscellaneous Files.
- movies.xsd - Structure:** A tree view showing the schema elements: Movie, Cast, Director, PlotSummary, Actor, Actress, and Award.
- Design:** A graphical representation of the schema elements as boxes with relationships (lines and ovals).
- XML:** The raw XML Schema Definition (XSD) code.
- Property Inspector:** A table showing the properties of the selected element.
- Component Palette:** A list of schema components for reuse.
- Code Editor:** Two Java class files (MyBean.java and MyOtherBean.java) are open, showing their package, imports, and class definitions.

XML Schema Definition (XSD) Code:

```
<?xml version="1.0" encoding="UTF-8" ?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" >
  <xs:element name="Award" or
  <xs:complexType>
    <xs:attribute name="From" type="string" use="required" />
    <xs:simpleType>
      <xs:restriction base="string" >
        <xs:maxLength value="100" />
      </xs:restriction>
    </xs:simpleType>
  </xs:complexType>
</xs:element>
<xs:element name="First" type="string" use="required" />
<xs:element name="Middle" type="string" use="required" />
<xs:element name="Last" type="string" use="required" />
<xs:element name="Award" type="Award" use="required" />
</xs:schema>
```

Property Inspector Table:

Property	Value
block	
default	
fixed	
form	
id	
maxOccurs	1
minOccurs	1
name	
nillable	false
ref	Last
type	

Code Editor (MyBean.java):

```
package nyoug.demo;
import java.util.Date;

public class MyBean {
    float salary;
    String name;
    Date birthday;

    public MyBean() {
    }

    public void setSalary(float salary) {
        this.salary = salary;
    }
}
```

Code Editor (MyOtherBean.java):

```
package nyoug.demo;
import java.util.Date;

public class MyOtherBean {
    float salary;
    String name;
    Date birthday;

    public MyOtherBean() {
    }

    public void setSalary(float salary) {
        this.salary = salary;
    }
}
```

Visual Web Page Development: UIX

The screenshot displays the Oracle JDeveloper 10g IDE in the 'Visual' mode for developing a web page. The main window title is 'Oracle JDeveloper 10g - HRApplication.jws : ViewController.jsp'. The interface is divided into several panes:

- Applications - Navigator:** Shows the project structure for 'HRApplication', including 'Model', 'View Controller', 'Application Sources', and 'Web Content'. The 'WEB-INF' folder contains configuration files like 'orion-web.xml', 'struts-config.xml', 'uix-config.xml', and 'web.xml'. The 'browseDeptEmp.uix' file is selected.
- Design Canvas:** The central area shows a visual representation of the web page layout. It features a large dashed box containing several smaller dashed boxes representing components: 'corporateBranding', 'productBranding', 'pageHeader', 'start', 'globalButtons', 'tabs', 'pageButtons', 'end', 'copyright', 'about', and 'privacy'. A vertical line is drawn across the center of the canvas.
- Data Control Palette:** Located on the right, it shows a tree view of data controls. The selected control is 'model.HRServiceDataCont', which includes 'EmployeesView1', 'DepartmentsView1', and 'Operations'. The 'EmpDeptFkLink1' control is highlighted.
- Structure:** A pane at the bottom left shows the hierarchical structure of the 'page' component, including 'content', 'dataScope', 'document', 'body', 'form - form0', 'pageLayout', and 'document Named Chi'.
- Property Inspector:** A pane at the bottom right shows the properties for the selected 'pageLayout' component. The 'id' property is set to 'the page-wide unique client'.

The bottom of the IDE shows a toolbar with 'Design', 'XML', and 'Preview' modes, and a status bar at the very bottom.

Visual Web Page Development: UIX

The screenshot displays the Oracle JDeveloper 10g IDE interface. The main workspace shows a web page titled "browseDeptEmp.uix" with a header and two data tables. The header includes the Oracle Technology Network logo and a "Department" section. Below it is a table with columns: DepartmentId, DepartmentName, ManagerId, and Location. The second section is titled "Employees" and contains a table with columns: EmployeeId, FirstName, LastName, Email, and HireDate. The interface also features a Component Palette on the right with various form components and a Structure view on the left showing the hierarchical layout of the page.

Header - Department

Select	DepartmentId	DepartmentName	ManagerId	Location
<input type="radio"/>	<code>#{uix.current.DepartmentId}</code>	<code>#{uix.current.DepartmentName}</code>	<code>#{uix.current.ManagerId}</code>	<code>#{uix.current.Location}</code>

Employees

Select	EmployeeId	FirstName	LastName	Email	HireDate
<input type="radio"/>	<code>#{uix.current.EmployeeId}</code>	<code>#{uix.current.FirstName}</code>	<code>#{uix.current.LastName}</code>	<code>#{uix.current.Email}</code>	<code>#{uix.current.HireDate}</code>

Visual Web Page Development: UIX

http://127.0.0.1:8988/Application3-ViewController-context-root/mainAction.do - Microsoft Internet Explorer pr...

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media

Address http://127.0.0.1:8988/Application3-ViewController-context-root/mainAction.do Go

Department

Previous 1-10 of 27 Next 10

Select	DepartmentId	DepartmentName	ManagerId	LocationId
<input type="radio"/>	10	Administration	200	1700
<input type="radio"/>	20	Marketing	201	1800
<input checked="" type="radio"/>	30	Purchasing	114	1700
<input type="radio"/>	40	Human Resources	203	2400
<input type="radio"/>	50	Shipping	121	1500
<input type="radio"/>	60	IT	103	1400
<input type="radio"/>	70	Public Relations	204	2700
<input type="radio"/>	80	Sales	145	2500
<input type="radio"/>	90	Executive	100	1700
<input type="radio"/>	100	Finance	108	1700

Previous 1-10 of 27 Next 10

Employees

Delete Edit

Select	EmployeeId	FirstName	LastName	Email	HireDate	JobId	Salary
<input checked="" type="radio"/>	114	Den	Raphaely	DRAPHEAL	1994-00-07	PU_MAN	11000
<input type="radio"/>	115	Alexander	Khoo	AKHOO	1995-00-18	PU_CLERK	3100

Done Internet

Visual Web Page Development: UIX

Oracle JDeveloper 10g - Application3.jws : ViewController.jsp

File Edit Search View Project Run Debug Versioning Tools Window Help

Applications - Navigator
 Applications
 Application3
 Model
 ViewController
 Application Sources
 Web Content
 WEB-INF
 orion-web.xml
 struts-config.xml
 uix-config.xml
 web.xml
 browseDeptEmp.uix
 Resources

browseDeptEmp.uix - Structure
 table Named Children
 header - Employees
 table - EmployeesView35
 column - EmployeeId
 messageTextInput
 column Named Children
 columnHeader
 sortableHeader
 footer

Messages
 Ignoring C:\jdev\9.0.5.0.1374n\jdev\mywork\Appl
 Ignoring C:\jdev\9.0.5.0.1374n\jdev\mywork\Appl
 Ignoring C:\jdev\9.0.5.0.1374n\jdev\mywork\Appl
 [12:57:02 AM] Successful compilation: 0 errors, 0 wa

Data Control Palette
 model_AppModuleDataControl
 EmployeesView1
 DepartmentsView1
 LocationsView1
 Operations

Drop As:

Components Data Con...

table - EmployeesView35

allDet...	False
altern...	[Set by model]
column...	
column...	
column...	
destin...	
detail...	

Whether or not to add links above

Design XML Preview

Design
 corporateBranding :
 productBranding :
 pageHeader :
 start :

Department

Select	DepartmentId	DepartmentName	Manag
	<code>#{uix.current.DepartmentId}</code>	<code>#{uix.current.DepartmentName}</code>	<code>#{uix.c Man:</code>

Employees

Select	EmployeeId	FirstName	LastName	Email	Hire
	<code>#{uix.current.EmployeeId}</code>	<code>#{uix.current.FirstName}</code>	<code>#{uix.current.LastName}</code>	<code>#{uix.current.Email}</code>	

Visual Web Page Development: UIX

http://127.0.0.1:8988/Application3-ViewController-context-root/mainAction.do - Microsoft Internet Explorer pr...

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media

Address http://127.0.0.1:8988/Application3-ViewController-context-root/mainAction.do Go

Department

Previous 1-10 of 27 Next 10

Select	DepartmentId	DepartmentName	ManagerId	LocationId
<input type="radio"/>	10	Administration	200	1700
<input type="radio"/>	20	Marketing	201	1800
<input checked="" type="radio"/>	30	Purchasing	114	1700
<input type="radio"/>	40	Human Resources	203	2400
<input type="radio"/>	50	Shipping	121	1500
<input type="radio"/>	60	IT	103	1400
<input type="radio"/>	70	Public Relations	204	2700
<input type="radio"/>	80	Sales	145	2500
<input type="radio"/>	90	Executive	100	1700
<input type="radio"/>	100	Finance	108	1700

Previous 1-10 of 27 Next 10

Employees

Delete Edit

Select	EmployeeId	FirstName	LastName	Email	HireDate	JobId	Salary
<input checked="" type="radio"/>	114	Den	Raphaely	DRAPHEAL	1994-00-07	PU_MAN	11000
<input type="radio"/>	115	Alexander	Khoo	AKHOO	1995-00-18	PU_CLERK	3100

Visual Web Development: JSP

The screenshot displays the Oracle JDeveloper 10g IDE interface. The main window shows the 'index.jsp' file in Design view, which is a web page titled 'JDeveloper Team'. The page features a navigation bar with a 'SMUENCH' link, a list of stories, and a table of blog entries. The table has columns for 'Aria', 'Bug', and 'Google', each with an associated input field. The page also includes navigation links for 'Back' and 'More', and a status bar indicating 'Viewing 11-20 of 169'.

The Code view at the bottom shows the JSP code for the table. The code uses JSTL's `<c:forEach>` tag to iterate over `bindings.BlogRoll.rangeSet`. The table structure is as follows:

```
</center>
</td>
<td align="center" width="100%" was="151" bgcolor="#F4F4F4" valign="top"><span class="n"><no></no></td>

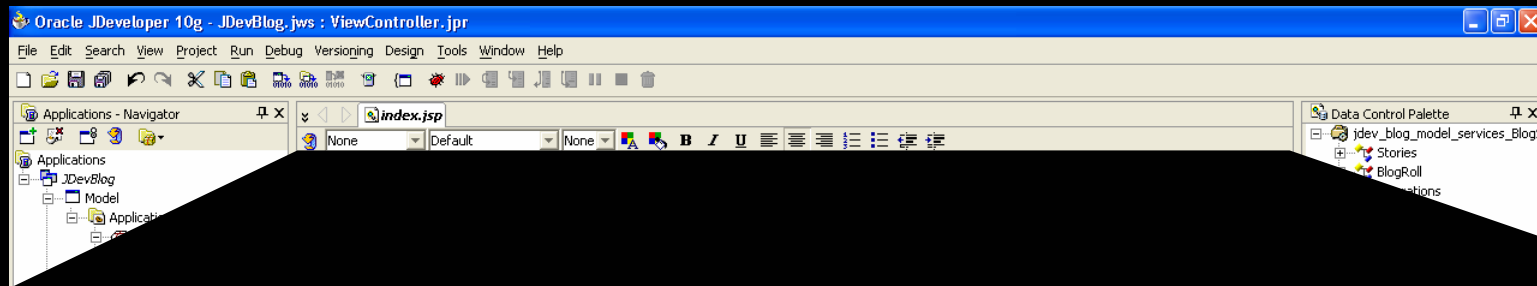
</a><a href="site.xsql?skip=20&find="

</a>
<br/>Viewing 11-20 of 169
<br/>
</span>
<span class="n">
<c:forEach var="x" items="{bindings.BlogRoll.rangeSet}" >
<a href="{c:out value='x.Url'}">{c:out value='x.Title'}</a>
<br/>
</c:forEach>
</span>
<table cellpadding="1" cellspacing="1" border="0" width="100%">
<tr>
<td>Aria</td>
<td>
<form action="xxx">
<input TYPE="text" NAME="p_string" SIZE="6"/>
</form>
</td>
</tr>
</table>
</td>
```

The left pane shows the 'Applications - Navigator' and 'index.jsp - Structure' views. The 'Applications - Navigator' shows the project structure, including 'Application Sources', 'Application Resources', 'Data Bindings', 'Struts Page Flow', and 'Web Content'. The 'index.jsp - Structure' view shows the page structure, including 'head', 'body', 'form', 'table', 'tr', and 'td' elements.

The right pane shows the 'Data Control Palette' and 'Input - Property Inspector'. The 'Data Control Palette' shows the 'jdev_blog_model_services_Blog' data control, with 'Stories', 'BlogRoll', and 'Operations' components. The 'Input - Property Inspector' shows the properties of the selected input field, including 'accept', 'accessKey', 'align', 'alt', 'checked', 'class', 'dir', 'disabled', 'id', 'isMap', 'lang', and 'maxLength'.

Visual Web Development: JSP



JDeveloper Team

SMUENCH



```

<table border="1">
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| <input type="checkbox" value="true" />forEach  $\{bindings.Stories.rangeSet\}$ | <input type="checkbox" value="true" />  $\{x.Title\}$ | <input type="checkbox" value="true" />  $\{x.Timestamp\}$ | <input type="checkbox" value="true" />  $\{x.Source\}$ | <input type="checkbox" value="true" />  $\{x.Description\}$ | <input type="checkbox" value="true" /> Del |

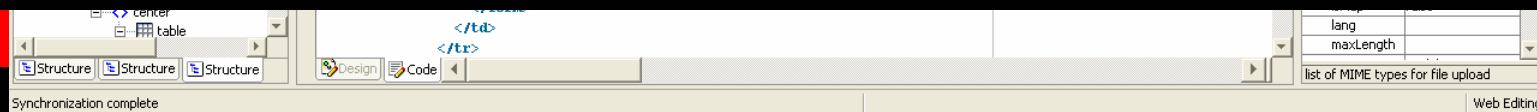
```

<< Back More >>

Viewing 11-20 of 169

<input type="checkbox" value="true" />forEach $\{bindings.BlogRoll.rangeSet\}$	<input type="checkbox" value="true" /> $x.Title$
Aria	<input type="checkbox" value="true" />
Bug	<input type="checkbox" value="true" />
Google	<input type="checkbox" value="true" />

Viewing 1-10 of 169. View the [RSS Format](#) for this dynamic page, produced using [Oracle ADF](#)



Running JSP on Embedded OC4J

Oracle JDeveloper Development - Mozilla Firebird

File Edit View Go Bookmarks Tools Help

http://jtdb-sun.us.oracle.com:8080/site.xsq?skip=10&find=

Self-Service Apps GeoCities Mine

JDeveloper Team

SMUENCH

- ▶ [Microsoft adds Web apps to Java conversion tool](#) (Jul 16, InfoWorld) [Del](#)
Continuing attempts to lure developers from the rival Java development camp, Microsoft on Tuesday is releasing Version 2.0 of its Java Language Conversion Assistant (JLCA) software to enable migration of Java applications to the Microsoft .Net framework. Key to Version 2.0 is support of migration of Web applications based on JavaServer Pages (JSP) and servlets to C# and ASP.Net
- ▶ [Wakesoft enables services-oriented architectures](#) (Jul 16, InfoWorld) [Del](#)
Wakesoft this week released Wakesoft Architecture Platform, Version 4, providing services provisioning for Java-based services-oriented systems. The product actually is a renaming of the company's Wakesoft Architecture Server, which remains as the core of the platform. Wakesoft's system provides for simplified Java development for deployment of application servers, company officials said.
- ▶ [Choose Your J2EE Weapons Wisely](#) (Jun 08, InfoWorld) [Del](#)
BC4J gets a mention in Jon Udell's story in InfoWorld.com
- ▶ [Sun to Rave about ease of use at JavaOne](#) (Jun 06, InfoWorld) [Del](#)
The new developer tool, code-named Project Rave, will be demonstrated at Sun's JavaOne Conference in San Francisco next week. It will incorporate the JavaServer Faces Web APIs as well as a number of Java Web services and database connectivity technologies, all with the aim of making Java development -- and in particular, Java Web services development -- easier to do.
- ▶ [Eclipse 3.0 Draft Plan](#) (May 29, Eclipse.org) [Del](#)
Get an early look at what Eclipse 3.0 is planning...
- ▶ [Commentary: Microsoft's Jupiter expedition](#) (May 23, CNET) [Del](#)
Microsoft has announced Jupiter, a forthcoming server software bundle to which developers can write content-rich, process-driven, self-service applications, opening a new front in its war with BEA Systems, IBM and Oracle for developers' attention. With Jupiter, Microsoft will integrate its collection of servers--BizTalk, Content Management and Commerce--into a single application platform running on Windows and developed with Visual Studio .Net. The announcement signals that the software giant has the following goals:
- ▶ [Sun Opens Up Java Process](#) (May 23, CNET) [Del](#)
An efficient mechanism to build on the Java specifications is important to growing the number of developers who work with the Java language, according to analysts. Large companies, including Oracle, BEA Systems and IBM, that sell tools based on Java depend on improvements in the language to compete with Microsoft's line of programming products, including its flagship tool, Visual Studio .Net.
- ▶ [Developing Web Applications with JavaServer Faces](#) (May 23, java.sun.com) [Del](#)
Sun tutorial article on JSF.
- ▶ [Gosling: New Java tools to focus on ease of use](#) (May 22, ComputerWorld) [Del](#)
Q: "What needs to be done?" A: "I think most of it's around tool development, so stay tuned."

Done

<< Back More >>
Viewing 11-20 of 169

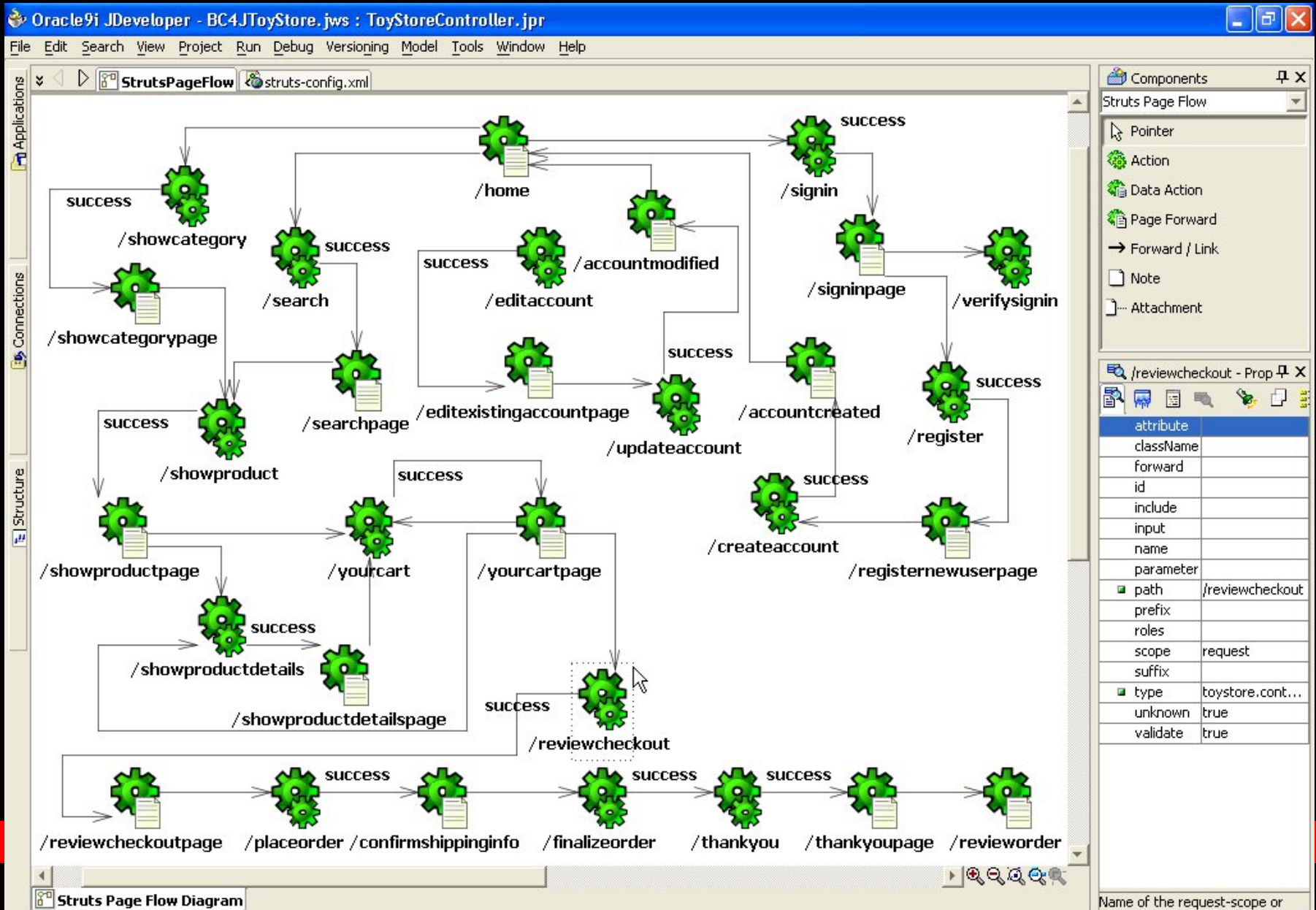
- [Task Database](#)
- [Bug Summary](#)
- [QA Blocks](#)
- [QA Regressions](#)
- [AppDevQA Site](#)
- [Code Chg Prevalidation](#)
- [JDoc Site](#)
- [Feature Teams](#)
- [Build System](#)
- [Recent Build Notes](#)
- [Bugs Filed By Me](#)
- [New JDev Bug](#)
- [Set WebBugs Pwd](#)
- [Bug Database Site](#)
- [Status App](#)
- [QA Test DB's](#)
- [OTN JDev Forum](#)
- [JDev Forum App](#)
- [OTN XML Forum](#)
- [OTN J2EE Forum](#)
- [Dive into BC4J](#)
- [duffblog](#)
- [JDev us Archive](#)
- [Microsoft MSDN](#)
- [Oracle Technet](#)
- [Oracle XML Central](#)
- [JDev Schedule](#)
- [JDev Mtg Minutes](#)
- [My Yahoo](#)
- [Scripting News](#)

Aria

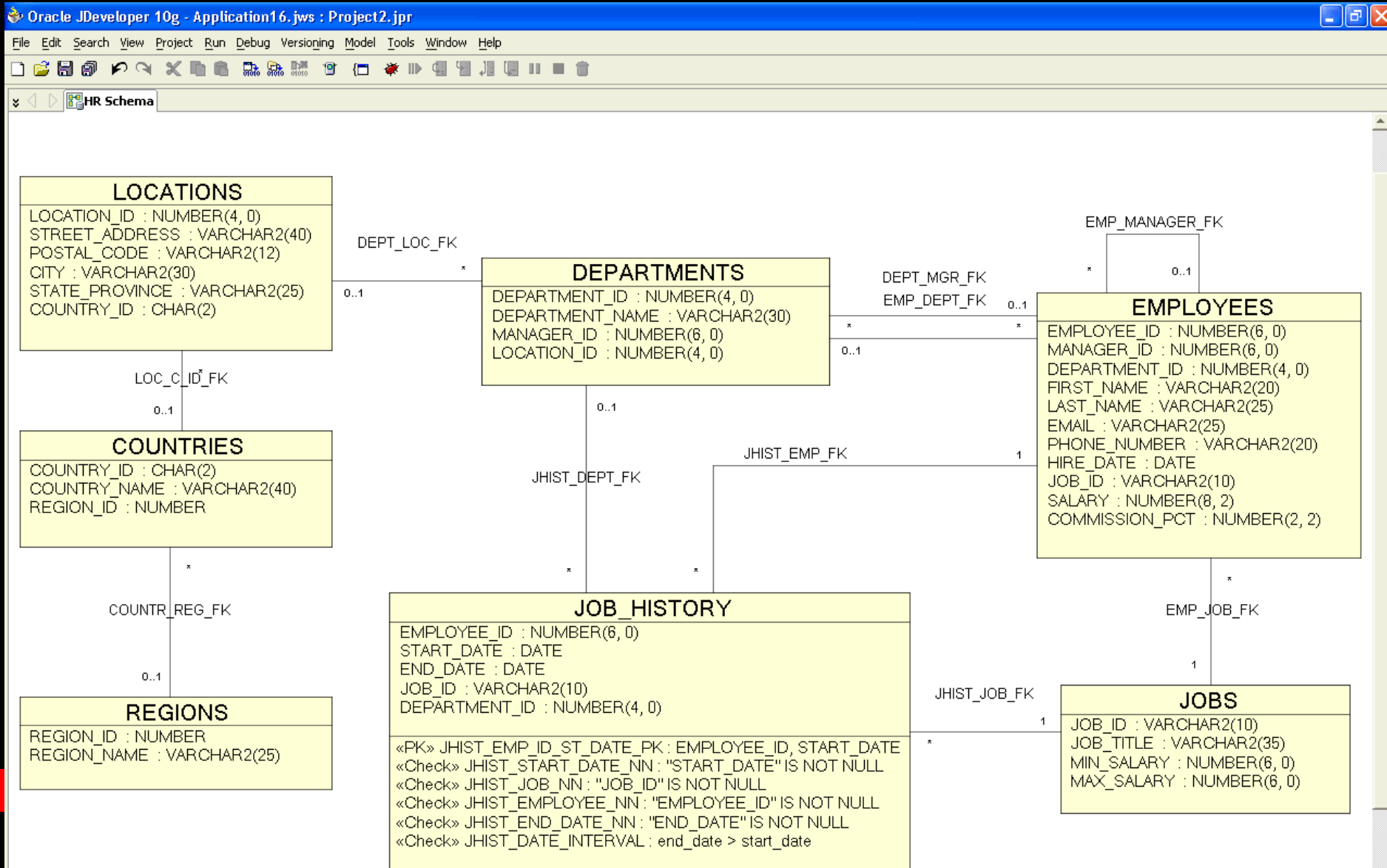
Bug

Google

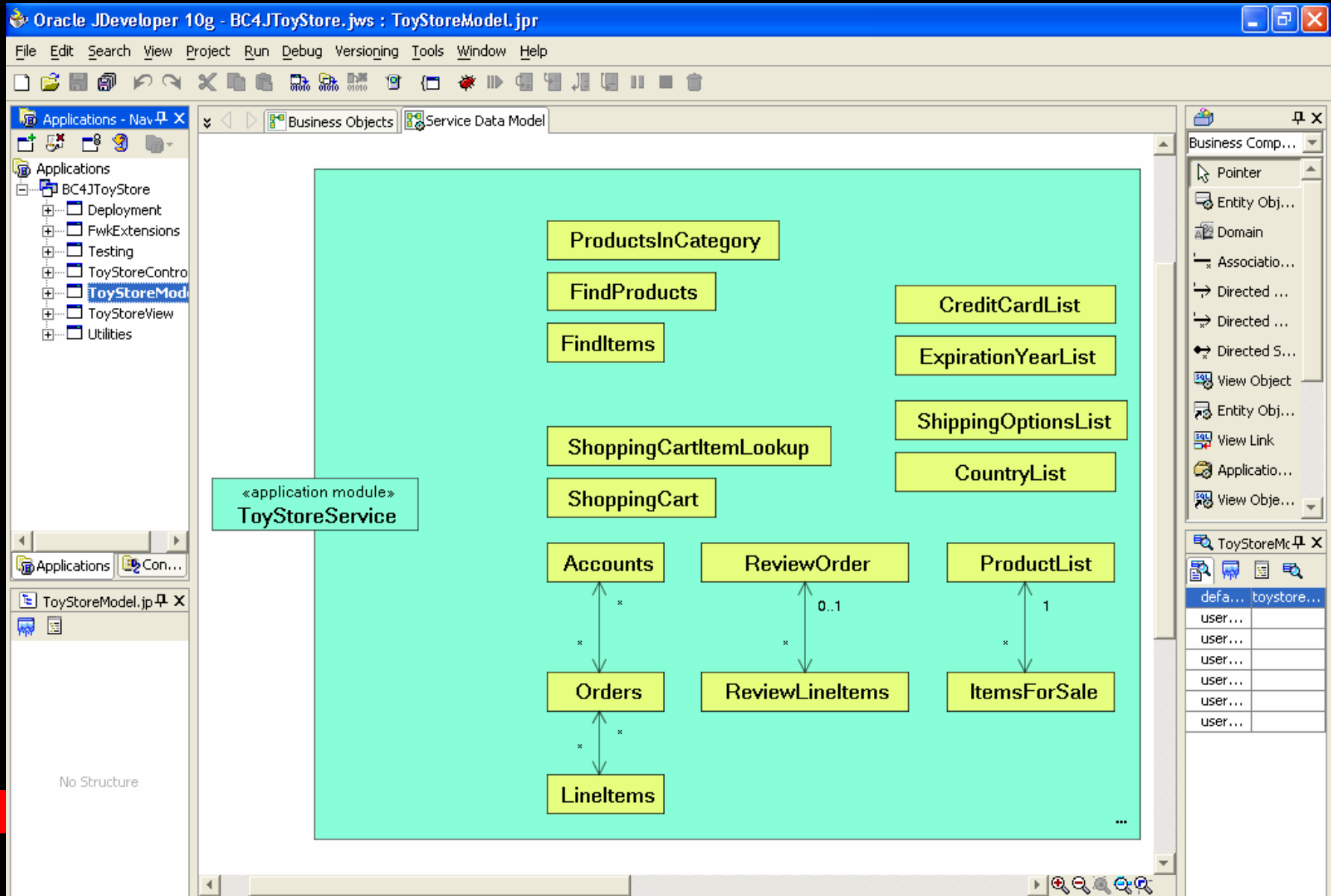
Visual Struts Page Flow Diagram



Database Modeling



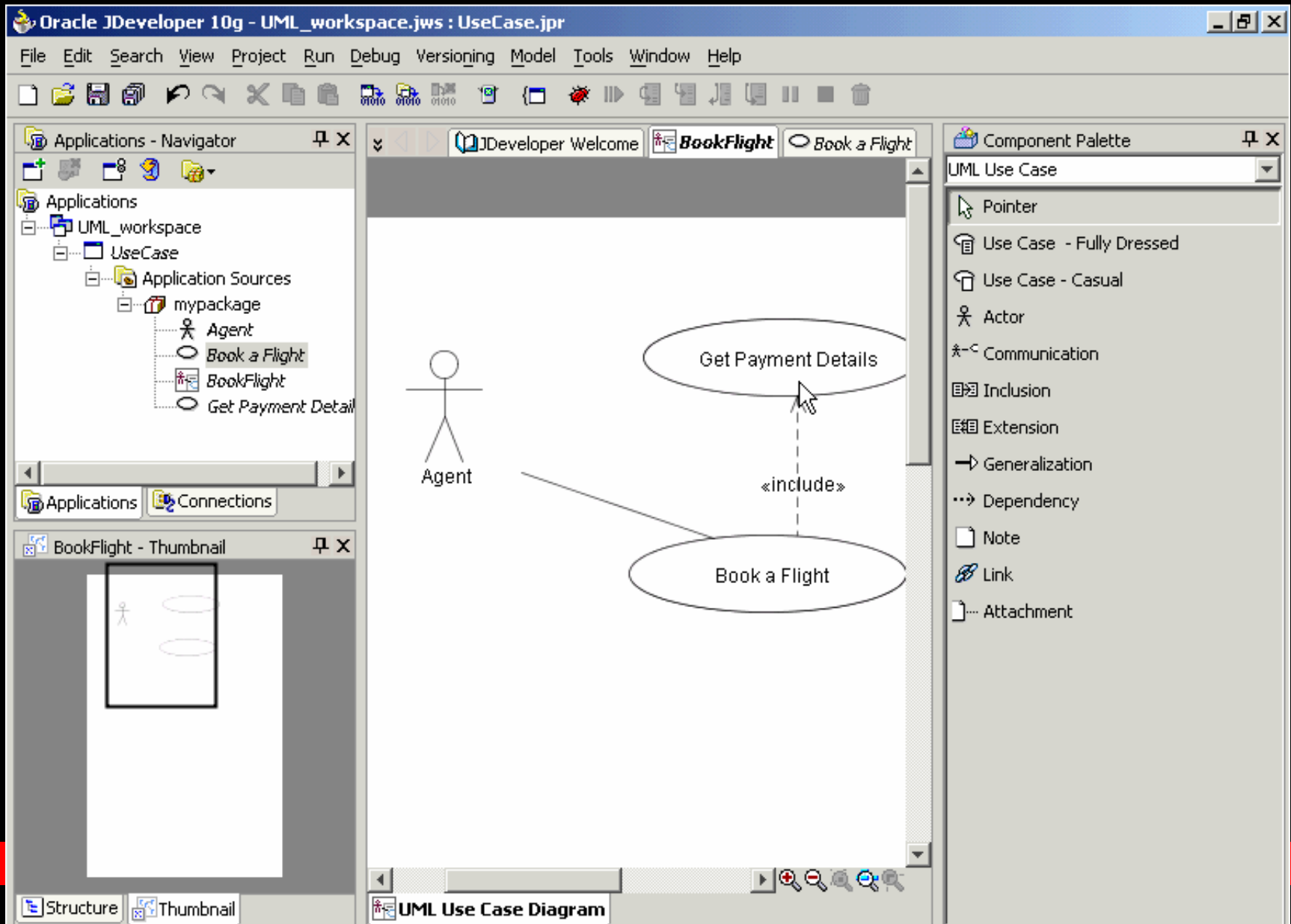
Improved UML Model for ADF Business Components



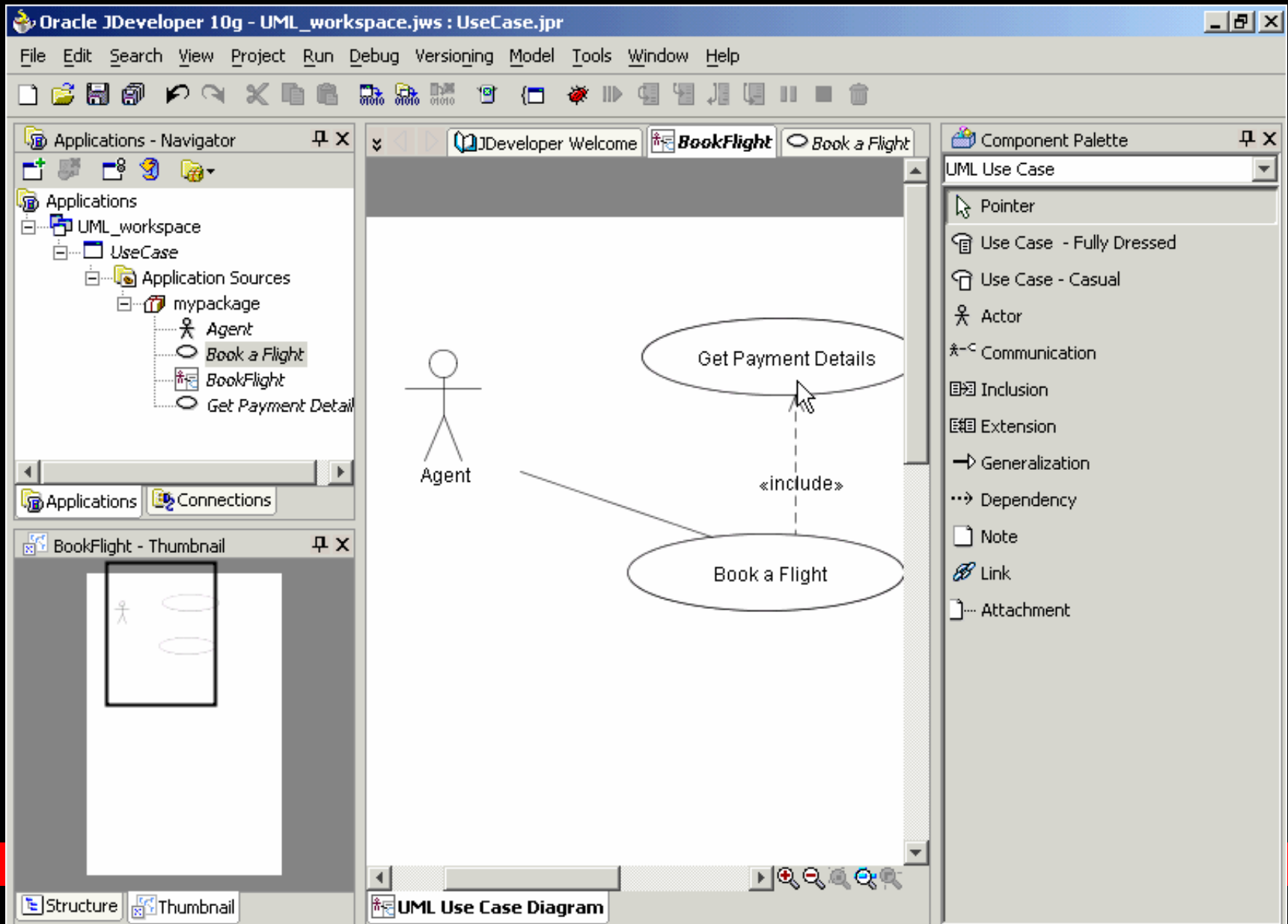
UML Diagrammer Enhancements

- Autolayout
- Thumbnail View
- Diagram Now Scrolls While Dragging
- Diagram Links
 - To files, URLs, and other resources
- Tighter Rose and TogetherJ Round-Tripping

Use Case Diagram



Use Case Diagram



Use Case Diagram

The screenshot displays the Oracle JDeveloper 10g IDE with a Use Case Diagram for 'Book a Flight'. The diagram is shown in the central editor window, which is titled 'Book a Flight'. The diagram includes the following elements:

- Precondition :**
- Postcondition :**
- Minimal Guarantee(s) :**
- Success Guarantee(s) :**
- Trigger :**
- Scenario :**
 - `usecase_includes`
 - 1. The agent specifies the travel itinerary
 - 2. The system searches an appropriate set of flights and presents them to the agent.
 - 3. The agent selects a flight.
 - 4. The system verifies there is space available on the flight and reserves a seat on the flight.
 - 5. [Get Payment Details](#)
 - 6. [<<< Insert Next Element Here](#)

The left sidebar shows the 'Applications - Navigator' with a tree view of the project structure:

- Applications
 - UML_workspace
 - UseCase
 - Application Sources
 - mypackage
 - Agent
 - Book a Flight
 - BookFlight
 - Get Payment Detail

The bottom-left pane shows the 'Book a Flight - Structure' view, which is a tree view of the HTML structure:

- HTML Structure
 - xml
 - html
 - Header block, contains i
 - head
 - meta
 - meta
 - title
 - uml:modelElement_jc
 - Body block, contains the
 - body
 - Extends block, can

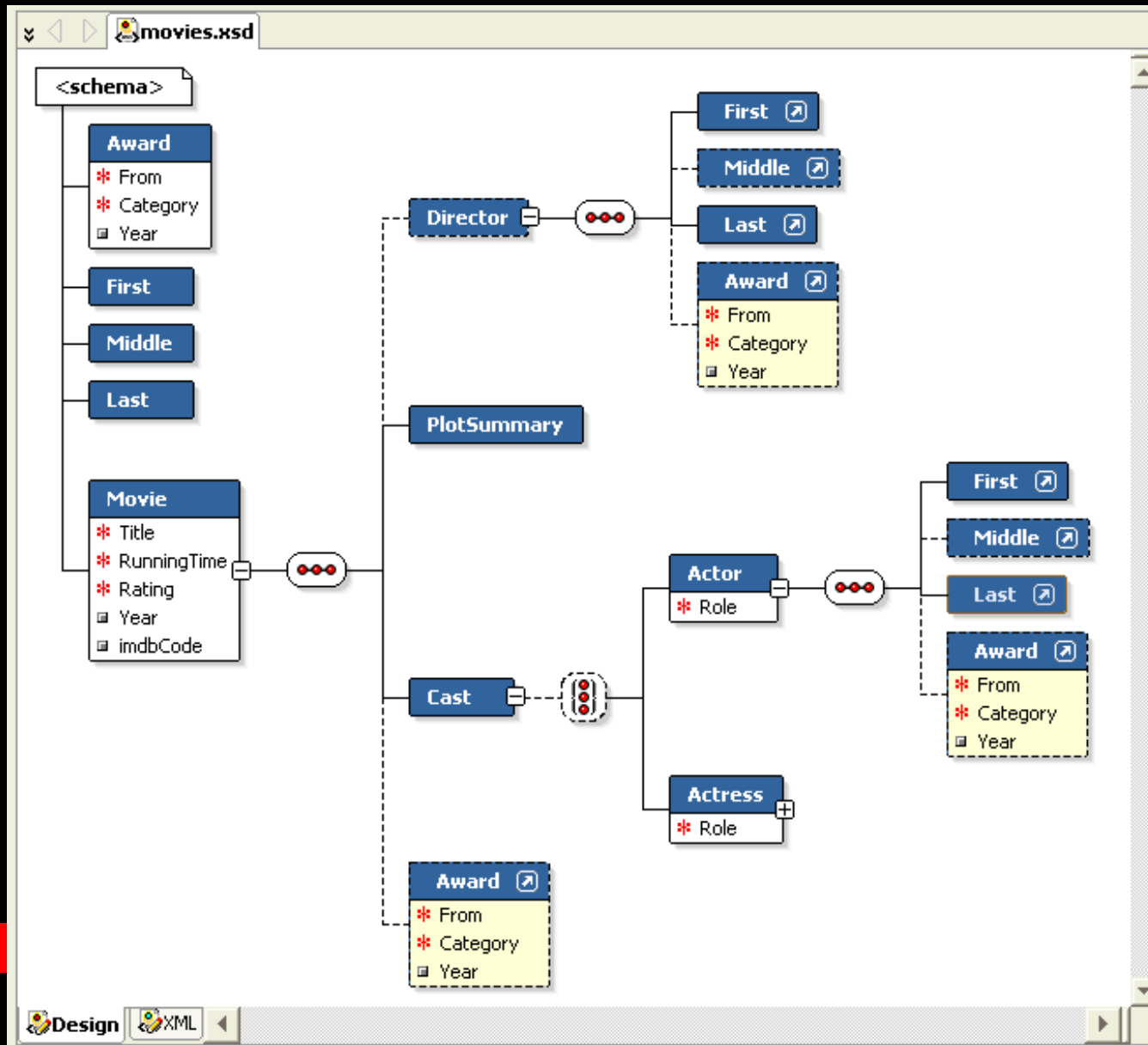
The right sidebar shows the 'Component Palette' with a list of HTML components:

- HTML
 - Pointer
 - Checkbox Field
 - DropDown
 - Email Link
 - File Field
 - Form
 - Hidden Field
 - Horizontal Rule
- Components
- Data Controls

The bottom-right pane shows the 'li - Property Inspector' with a table of properties:

class	
dir	
id	
lang	
onClick	
onDbClick	
onKeyDown	
onKeyPress	
onKeyUp	
onMouseDown	
onMouseMove	
onMouseOut	

Visual XML Schema Editor



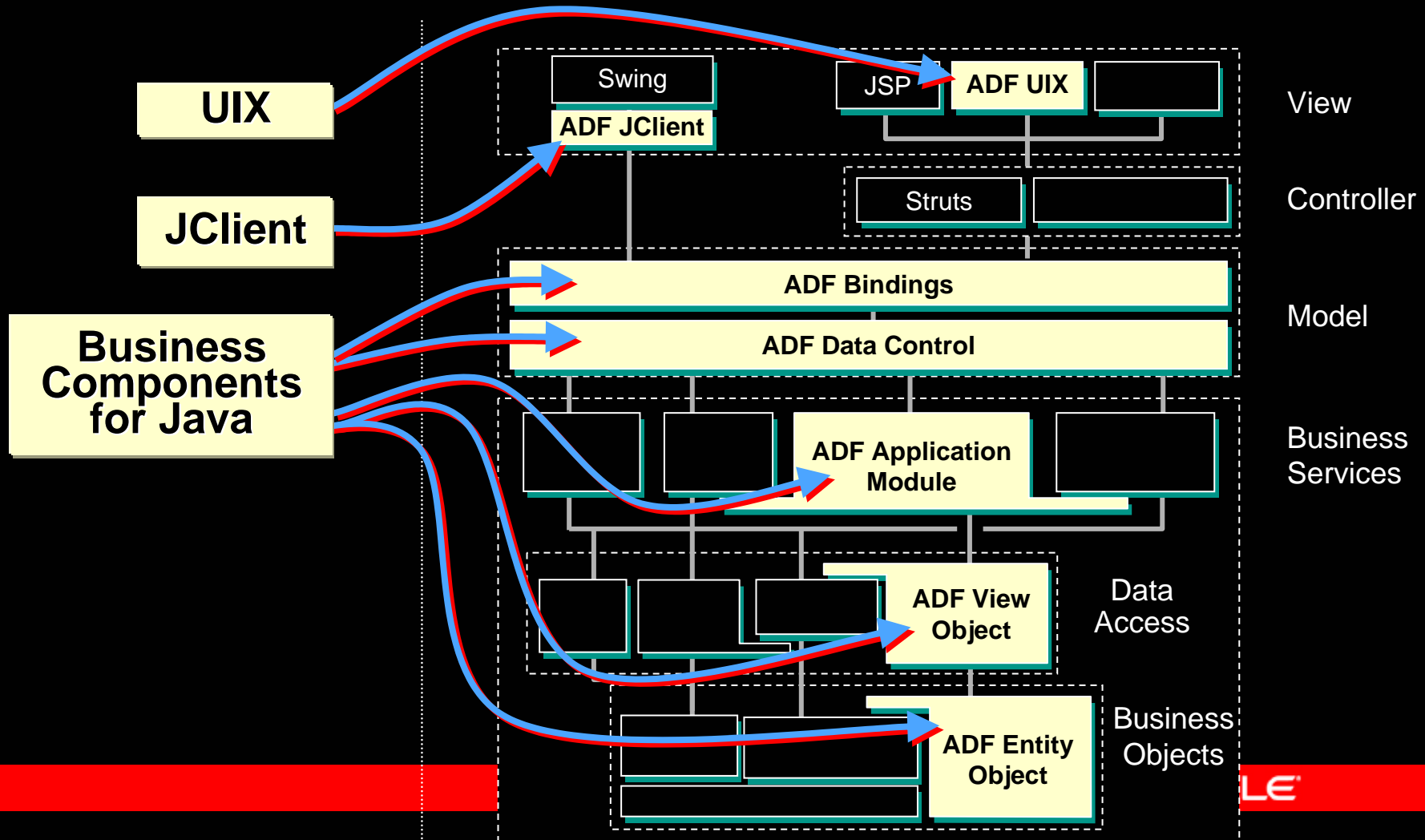
More Flexible Technology Choices and Architecture Than Ever

Existing Oracle Frameworks Consolidated into Enhanced Oracle ADF in Oracle 10g

9.0.3

9.0.4

10g



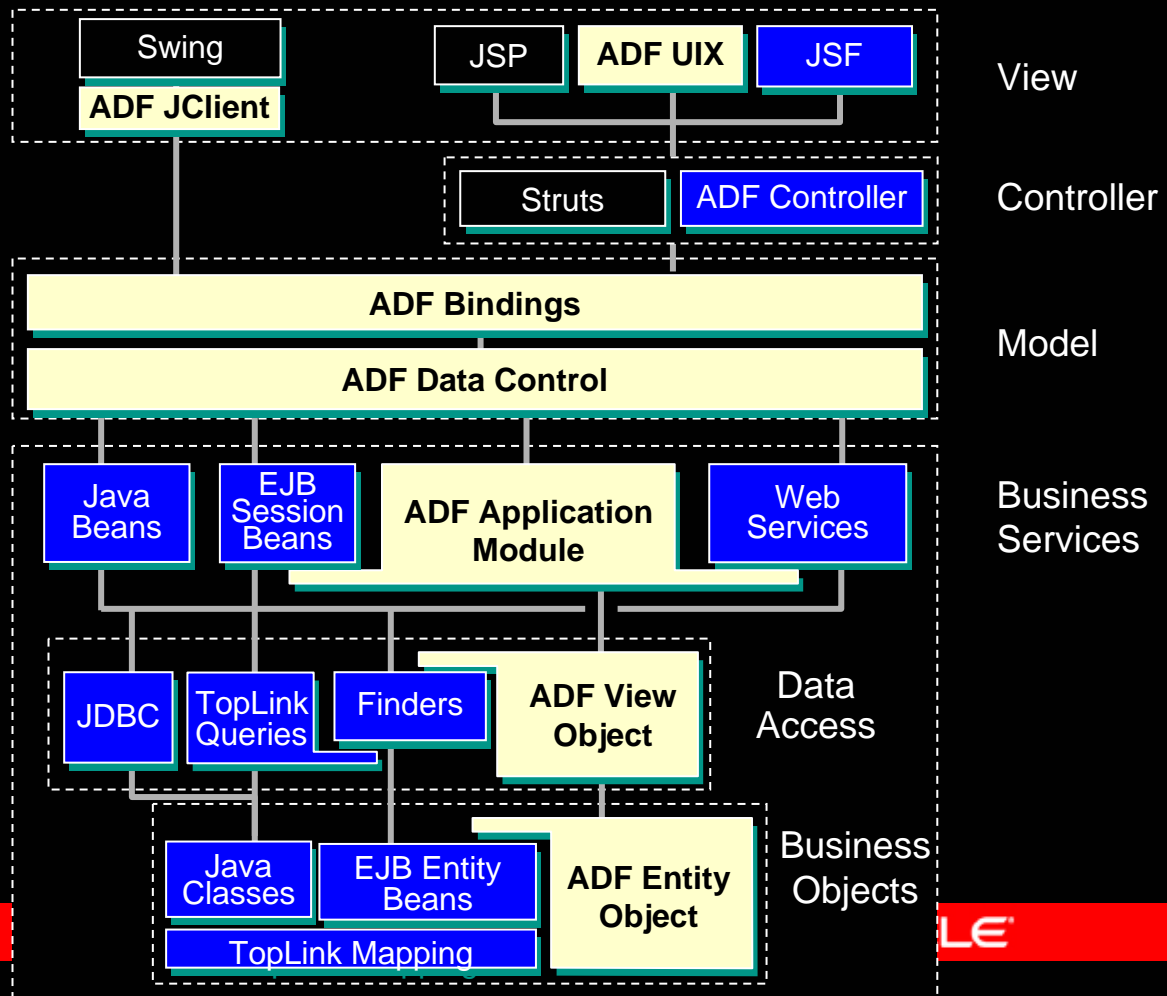
In JDev 10g, Oracle ADF Offers Single J2EE App Architecture with New, Flexible Choices

9.0.3

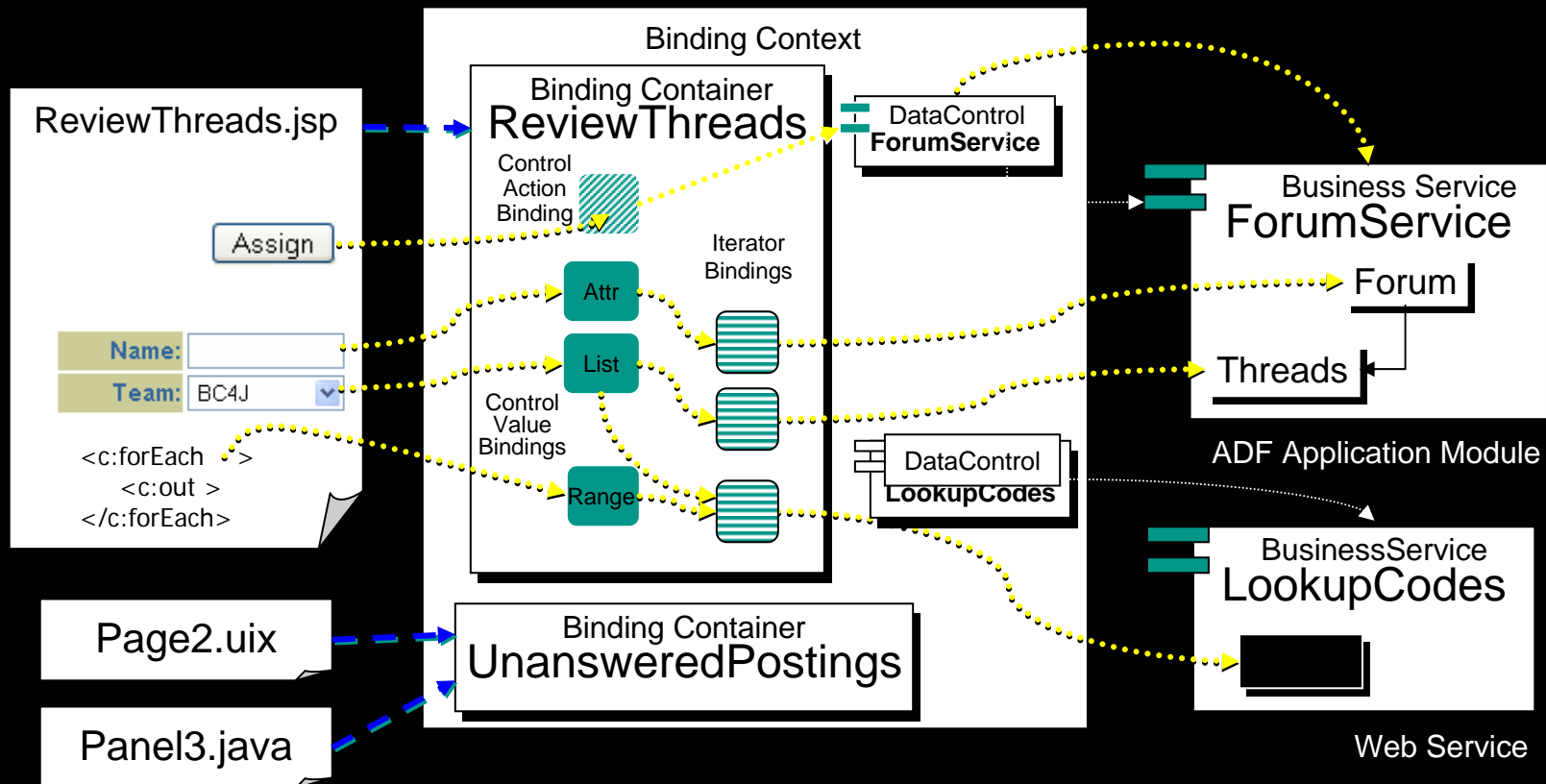
9.0.4

10g

- JavaServer Faces
- Declarative ADF Controller
- Custom Beans
 - TopLink Mapping
 - Custom Mapping
- Enterprise Java Beans
- Web Services



ADF Binding Concepts



Flexible Data Binding Architecture

The screenshot displays the Oracle JDeveloper 10g IDE interface for a project named "ADFBindingIntro.jws". The main window shows the "ViewController.jpr" file in Design mode. The page title is "Employees By Salary - Home Page".

Data Control Palette: Shows two data controls:

- CommissionServiceDataControl**
 - availableCommissionPlans
 - amount
 - name
 - Operations
- test_model_services_ServiceDataControl**
 - Employees
 - Empno
 - Ename

UI Model Structure: Shows the structure of the "showEmployees.jsp" page:

- UI Model
 - WEB_INF_jsp_showEmployeesUIModel
 - EmployeesIter
 - availableCommissionPlansIterator
 - Employees
 - prepareModelForShowEmployeesPage
 - availableCommissionPlans

Page Content: The page contains two data binding examples:

Example 1: Iterating over Employees

```
Employees By Salary - Home Page
```

<code>#{e.labels Empno}</code>	<code>#{e.labels Ename}</code>	<code>#{e.labels Sa</code>
<code><h:forEach \$#{e.rangeSet}</code>		
<code>#{x.Empno}</code>	<code>#{x.Ename}</code>	<code>#{x.Sa}</code>

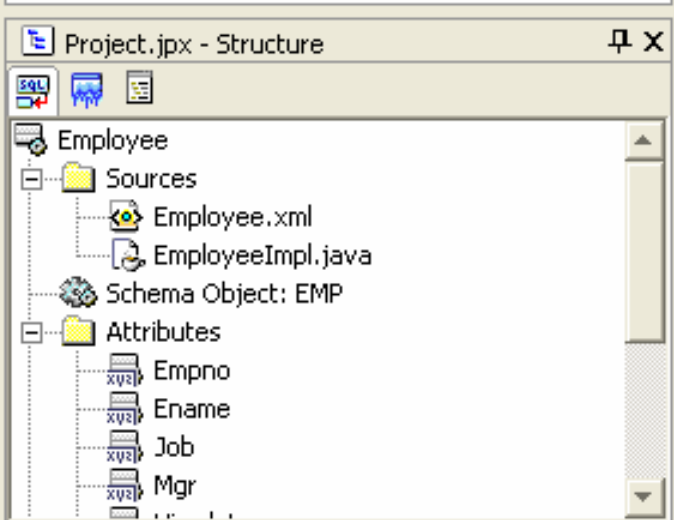
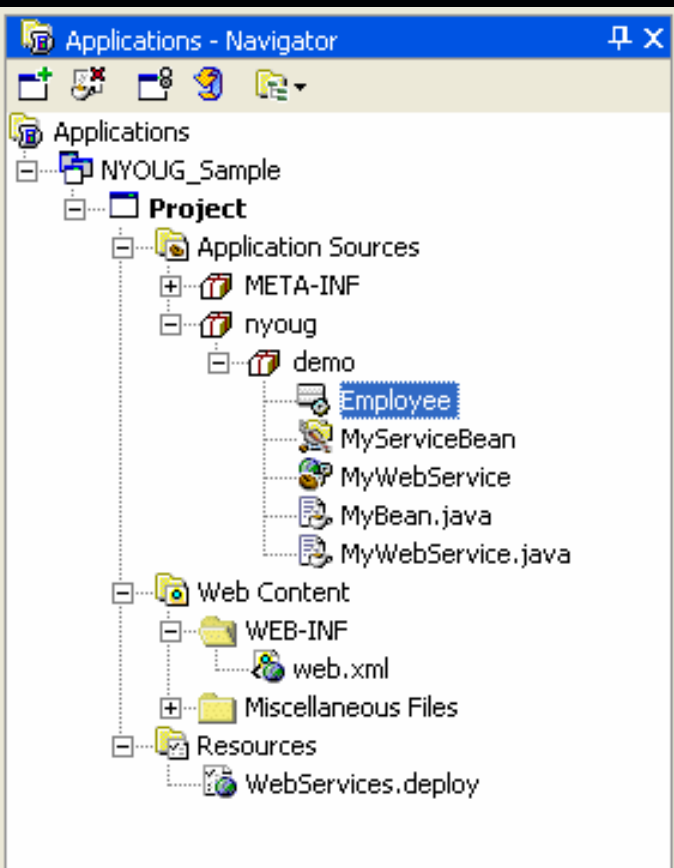
Example 2: Iterating over Commission Plans

<code>#{c.labels amount}</code>	<code>#{c.labels name}</code>
<code><h:forEach \$#{c.rangeSet}</code>	
<code>#{x.amount}</code>	<code>#{x.name}</code>

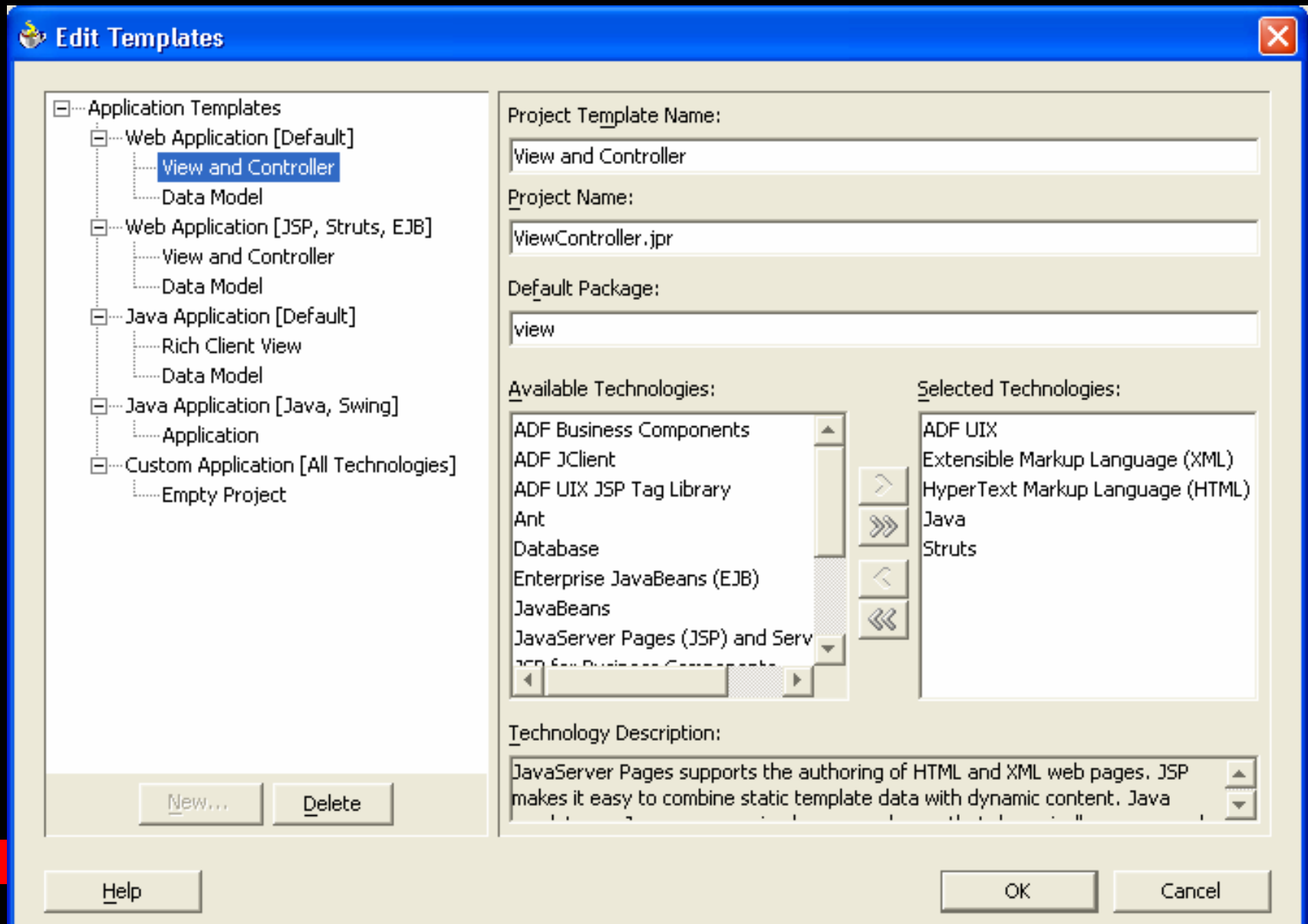
The status bar at the bottom indicates the file is saved at "C:\jdev\home\mywork\ADFBindingIntro\ViewController\public_html\..." and the current mode is "Web Editing".

Unified Application Navigator

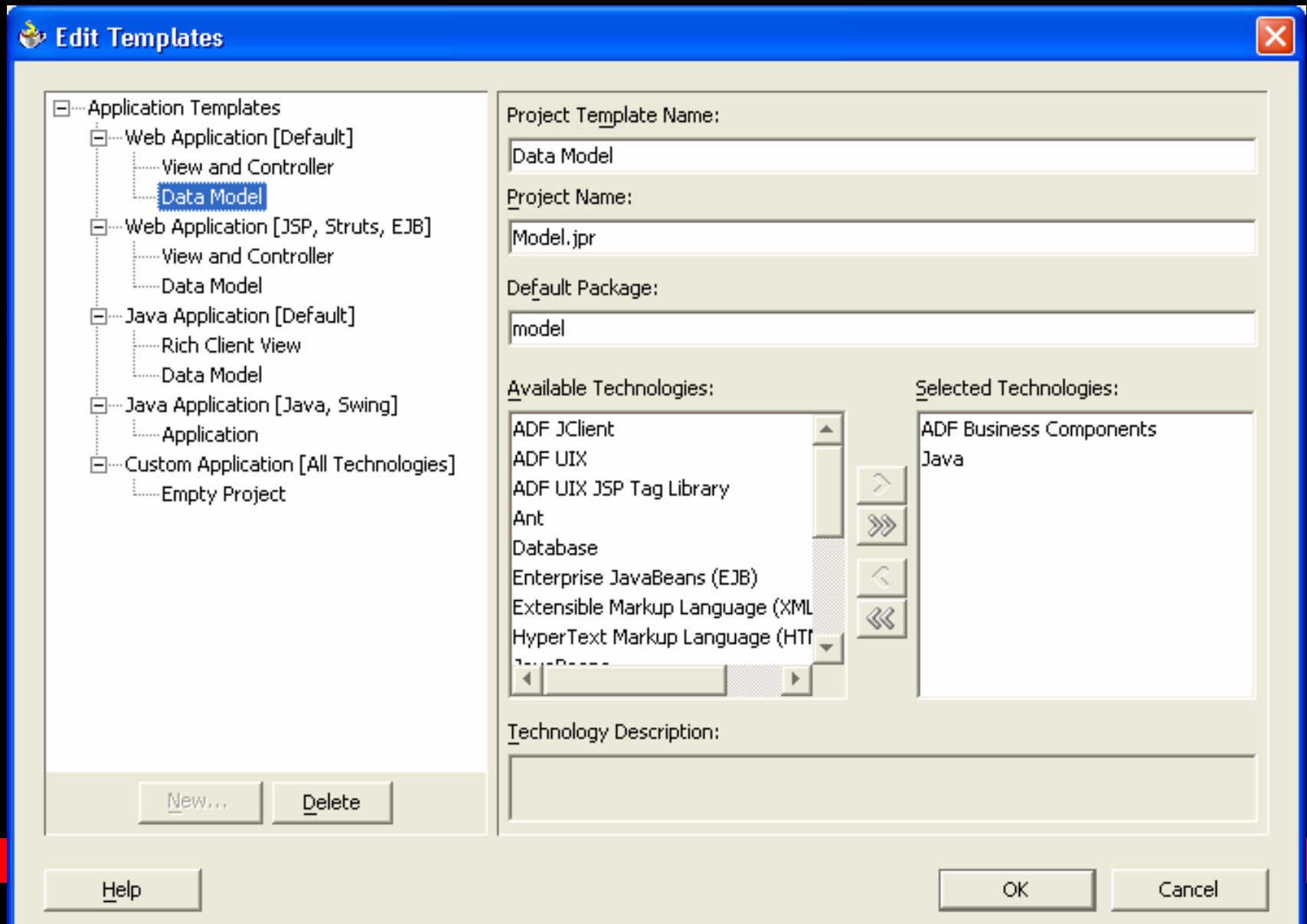
- Objects Organized By Package
- Regardless of Type
- Consistent Structure Pane Use



Application Templates



Application Templates



Technology Scope

- Simplifies the Gallery
- Simplifies Drag and Drop Choices
- Simplifies the Component Palettes

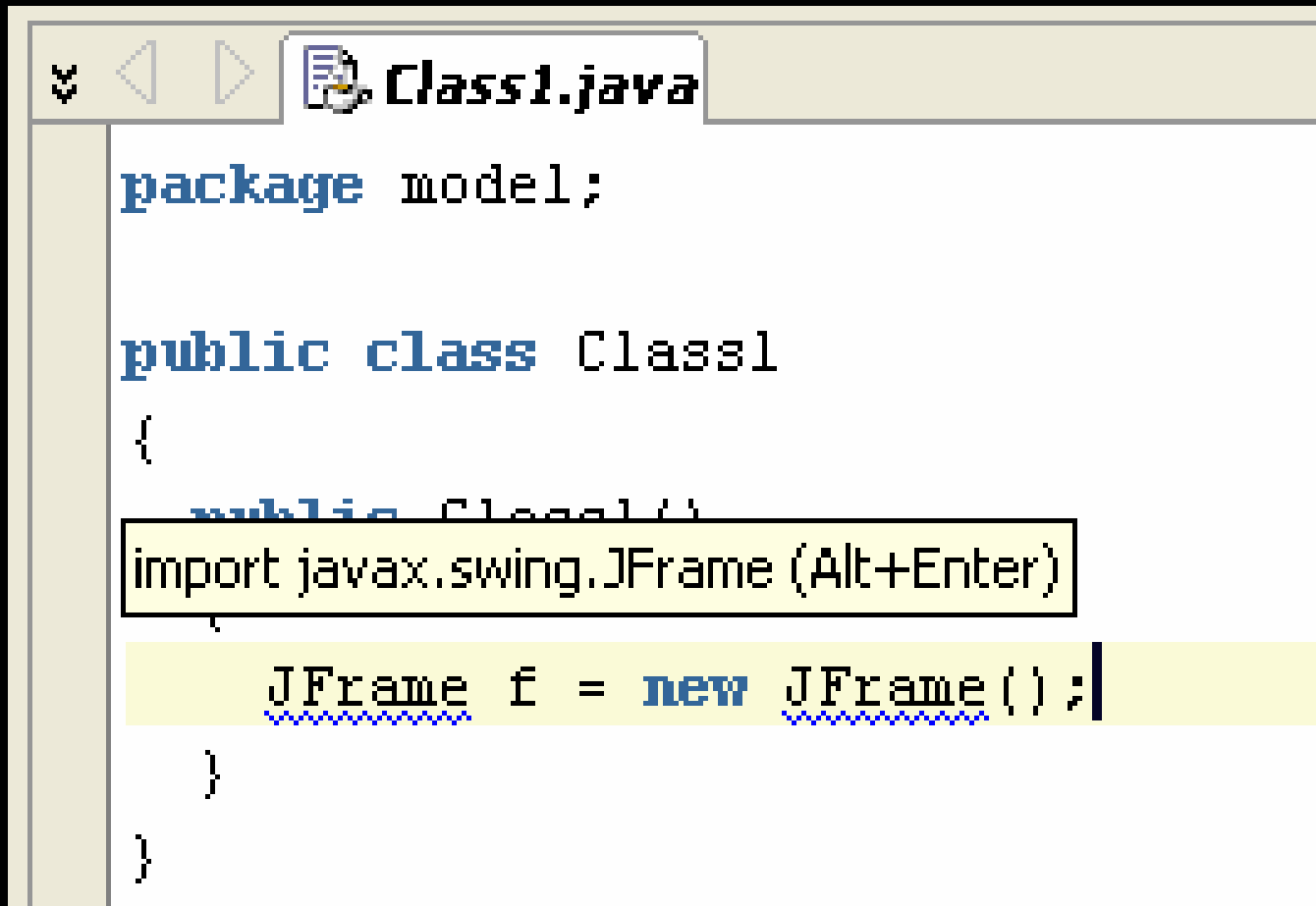
More
Day to Day
Productivity
Than Ever

Semantic Error Highlighting

```
public class MyBean {  
    public MyBean(){  
        URL u = new URL("http://otn.oracle.com");  
    }  
}
```

Unreported exception: java.net.MalformedURLException

Automatic Import Assistance

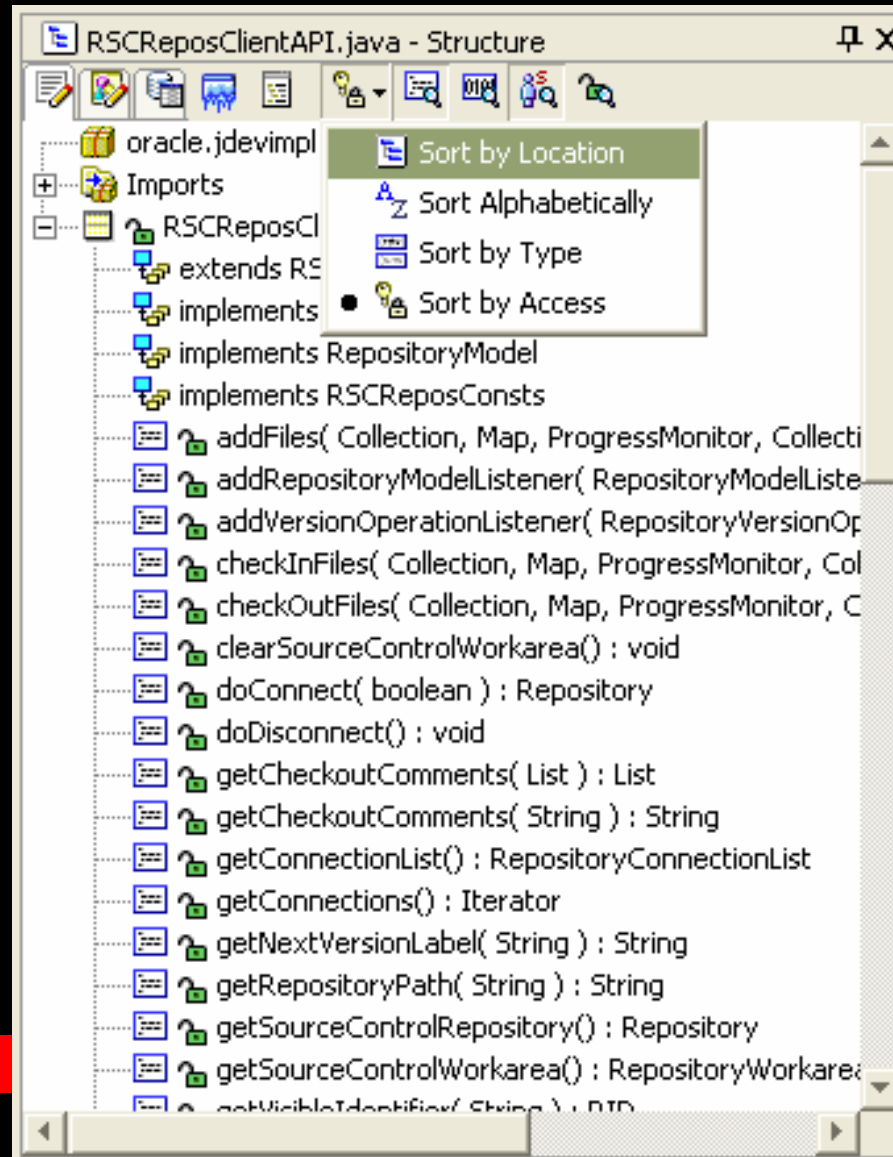


The screenshot shows a code editor window titled "Class1.java". The code contains a package declaration, a public class definition, and a constructor. The line "import javax.swing.JFrame (Alt+Enter)" is highlighted with a black box, indicating that the IDE has automatically inserted this import statement. The line "JFrame f = new JFrame();" is highlighted in yellow, showing the use of the imported class. The code is as follows:

```
package model;

public class Class1
{
    public Class1()
    import javax.swing.JFrame (Alt+Enter)
    {
        JFrame f = new JFrame();
    }
}
```

Improved Code Editor



Automatic JavaDoc Comments

```
7  /**
8  * |
9  * @param level
10 * @param name
11 * @param component
12 * @return
13 * @throws OutOfCheeseException
14 */
15 public boolean doSomethingComplicated( int level, String name,
16     Component component ) throws OutOfCheeseException
17 {
```

Simplified Help System

The screenshot shows an IDE with two windows. The left window, titled 'Class1.java', displays the following code:

```
6
7 /**
8  *
9  * @param level
10 * @param name
11 * @param component
12 * @return
13 * @throws OutOfCheeseException
14 */
15 public boolean doSomethingComplicated( int level,
16 Component component ) throws OutOfCheeseExcepti
17 {
18
19 }
```

The right window, titled 'Component (Java 2 Platform SE v1.4.1)', displays the 'Field Summary' section of the API documentation:

Field Summary	
static float	BOTTOM_ALIGNMENT Ease-of-use constant for getAlignmentY.
static float	CENTER_ALIGNMENT Ease-of-use constant for getAlignmentY and getAlignmentX.

Quick JavaDoc

Preview

[java.awt.Component](#)

public [Color](#) `getBackground()`

Gets the background color of this component.

Returns:

Color - this component's background color; if this component does not have a background color, the background color of its parent is returned

See also:

[setBackground](#)

KeyListener.java

Adapter.java

Adapter.java

Item.java

ItemObject.java

ItemObject.java

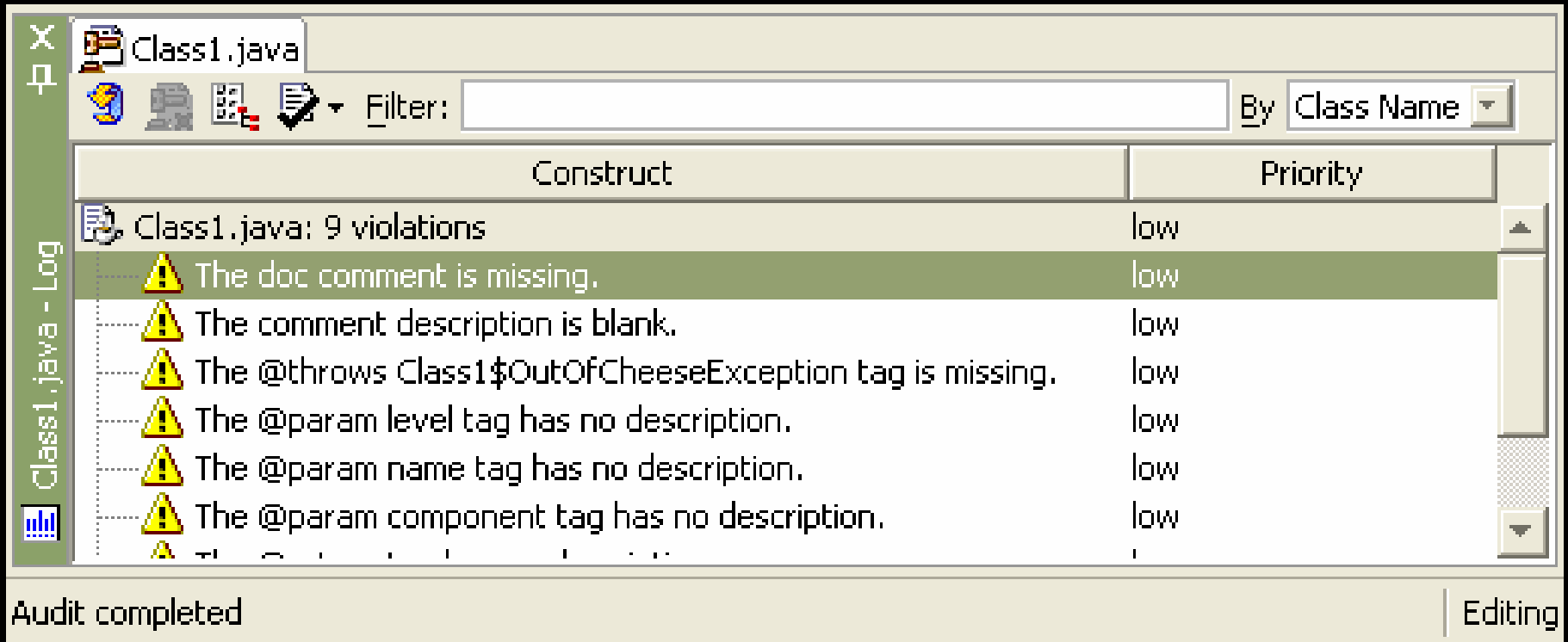
ItemSpecification.java

```
14     */
15     public boolean doSomethingComplicated( int level, String name,
16         Component component ) throws OutOfCheeseException
17     {
18         component.setBackground();
19     }
```

Quick Navigation to Files



Code Audit and Metrics



The screenshot shows a code audit tool window for a file named 'Class1.java'. The window has a toolbar with icons for search, refresh, and other actions. A 'Filter:' text box is present, followed by a 'By' dropdown menu set to 'Class Name'. The main area is a table with two columns: 'Construct' and 'Priority'. The table lists several violations, each with a yellow warning icon. The first violation is highlighted in green. The status bar at the bottom indicates 'Audit completed' and 'Editing'.

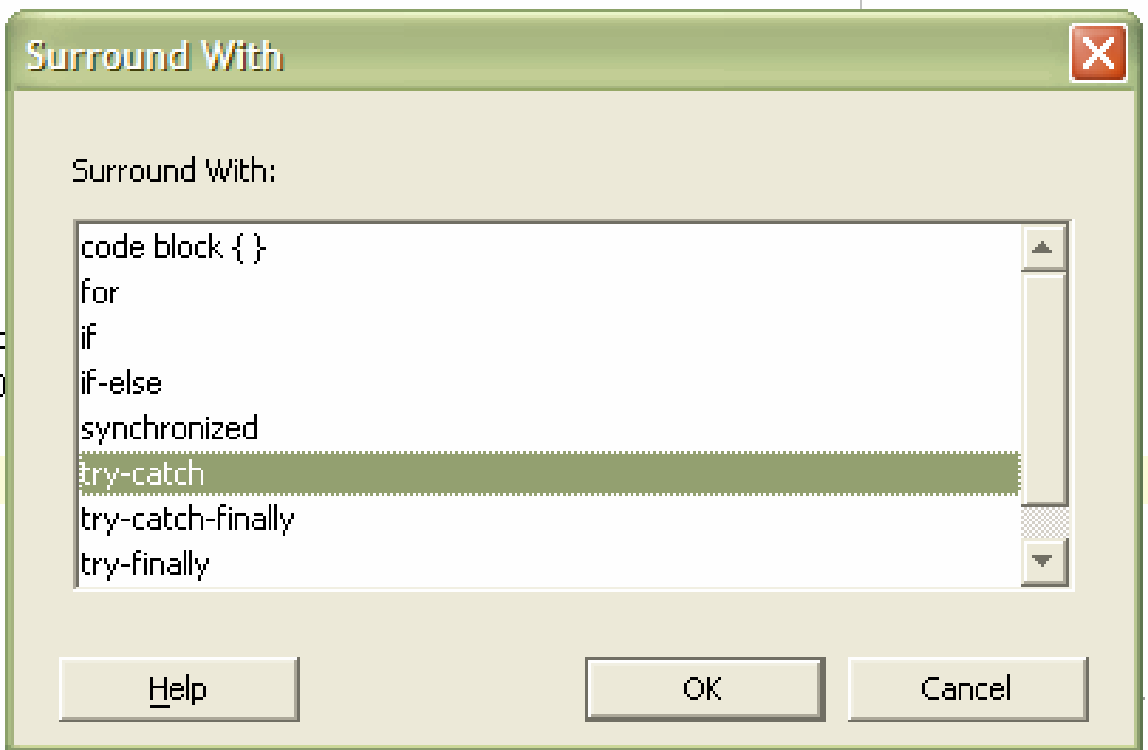
Construct	Priority
Class1.java: 9 violations	low
⚠ The doc comment is missing.	low
⚠ The comment description is blank.	low
⚠ The @throws Class1\$OutOfCheeseException tag is missing.	low
⚠ The @param level tag has no description.	low
⚠ The @param name tag has no description.	low
⚠ The @param component tag has no description.	low
⚠ The @param component tag has no description.	low

Audit completed | Editing

Surround With

```
*/
* @param level
* @param name
* @param component
* @return
* @throws OutOfCheeseException
*/
public boolean doSomethingComplicat
    Component component ) throws OutO
{
    URL u = new URL( "blah" );
}

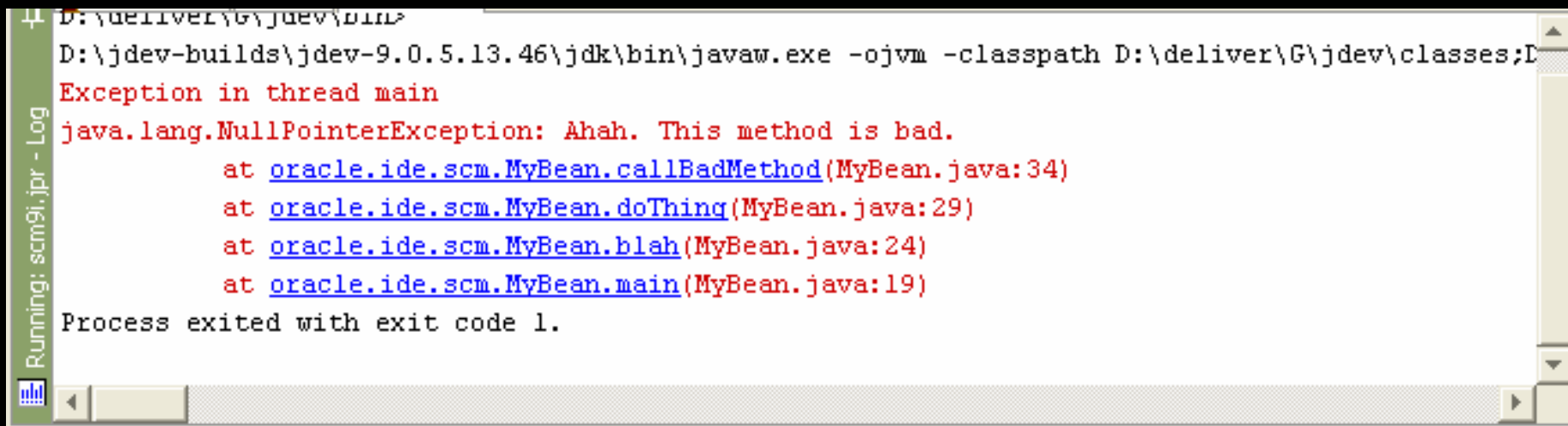
.....
class OutOfCheeseException extends
```



Surround With

```
*/
* @param level
* @param name
* @param component
* @return
* @throws OutOfCheeseException
*/
public boolean doSomethingComplicated( int level, String name,
    Component component ) throws OutOfCheeseException
{
    try
    {
        URL u = new URL( "blah" );
    }
    catch (MalformedURLException e)
    {
    }
}
```

Log Window



The screenshot shows a log window titled "Running: scm9i.jpj - Log". The log content is as follows:

```
D:\deliver\G\jdev\bin>  
D:\jdev-builds\jdev-9.0.5.13.46\jdk\bin\javaw.exe -ojvm -classpath D:\deliver\G\jdev\classes;D  
Exception in thread main  
java.lang.NullPointerException: Ahah. This method is bad.  
    at oracle.ide.scm.MyBean.callBadMethod(MyBean.java:34)  
    at oracle.ide.scm.MyBean.doThing(MyBean.java:29)  
    at oracle.ide.scm.MyBean.blah(MyBean.java:24)  
    at oracle.ide.scm.MyBean.main(MyBean.java:19)  
Process exited with exit code 1.
```

Generate Accessors

```
package oracle.ide.scm;  
  
public class MyBean  
{  
    private int type;  
    private String name;  
    private boolean alive;  
  
    public MyBean()  
    {  
    }  
}
```

Generate Accessors

- oracle.ide.scm.MyBean
 - type
 - setType(int)
 - getType()
 - name
 - setName(java.lang.String)
 - getName()
 - alive
 - setAlive(boolean)
 - isAlive()

Visual Differencing

Oracle JDeveloper 10g - JClientJGoodies.jws : Client.jpr

File Edit Search View Project Run Debug Versioning Compare Tools Window Help

TestPanel.java Compare:1 I15dPanelBuilder.java

File on Disk - TestPanel.java

```
// Panel binding definition used by design time
private JUPanelBinding panelBinding = new JUPanelBinding("Clic
private JTextField empnoField = new JTextField();
private JTextField enameField = new JTextField();
private JTextField salField = new JTextField();
private JTextField hiredateField = new JTextField();
private JUNavigationBar jUNavigationBar1 = new JUNavigationBar

/**
 *
 * The default constructor for panel
 */
public TestPanel() {
}

/**
 *
 * Constructor that takes a shared panel binding
 */
public TestPanel(JUPanelBinding binding) {
    setPanelBinding(binding);
}

/**
 *
 * the JbInit method
 */
public void jbInit() {
    this.setLayout(null);
    empnoField.setDocument(JUTextFieldBinding.createAttributeBj
    enameField.setDocument(JUTextFieldBinding.createAttributeBj
    salField.setDocument(JUTextFieldBinding.createAttributeBj
    hiredateField.setDocument(JUTextFieldBinding.createAttribu
```

Editor Buffer - TestPanel.java

```
// Panel binding definition used by design time
private JUPanelBinding panelBinding = new JUPanelBinding("Clic
private JTextField salField = new JTextField();
private JTextField hiredateField = new JTextField();
private JUNavigationBar jUNavigationBar1 = new JUNavigationBar

/**
 *
 * The default constructor for panel
 */
public TestPanel() {
}

/**
 *
 * Constructor that takes a shared panel binding
 */
public TestPanel(JUPanelBinding binding) {
    setPanelBinding(binding);
}

/**
 *
 * the JbInit method
 */
public void jbInit() {
    this.setLayout(null);
    salField.setDocument(JUTextFieldBinding.createAttributeBind
    hiredateField.setDocument(JUTextFieldBinding.createAttribu
```

Compare

Log

Hot Swap Debugging

Class	Method
MyThirdBean	getBirthday
MyOtherBean	getBirthday
MyBean	getBirthday
MyBean	main

MyThirdBean.java - Structure

- nyoug.demo
 - Imports
 - MyThirdBean
 - MyThirdBean()
 - getBirthday(): Date
 - getName(): String

```
public float getSalary() {  
    return salary;  
}  
  
public void setName(String name) {  
    this.name = name;  
}  
  
public String getName() {  
    return name;  
}  
  
public void setBirthday(Date birthday) {  
    this.birthday = birthday;  
}  
  
public Date getBirthday() {  
    // return the current date  
    return birthday;  
}
```

birthday = null

Hot Swap Debugging

The screenshot displays an IDE interface for hot swap debugging. On the left, the **Stack** window shows a list of classes and methods, with **MyThirdBean** and **getBirthday** selected. Below it, the **MyThirdBean.java - Structure** window shows the class hierarchy, including **MyThirdBean** and its methods **MyThirdBean()**, **getBirthday() : Date**, and **getName() : String**.

The main code editor shows the following Java code:

```
public float getSalary() {  
    return salary;  
}  
  
public void setName(String name) {  
    this.name = name;  
}  
  
public String getName() {  
    return name;  
}  
  
public void setBirthday(Date birthday) {  
    this.birthday = birthday;  
}  
  
public Date getBirthday() {  
    birthday = new Date(); // oops!  
    return birthday;  
}
```

A red error marker is visible on the `return birthday;` line. A context menu is open over the error, with the following options:

- Go to Declaration
- Go to Javadoc
- Expand Temp
- Quick Javadoc
- Surround With
- Organize Imports
- Toggle Bookmarks
- Make MyThirdBean** (highlighted)
- Run MyThirdBean
- Debug MyThirdBean
- Toggle Breakpoints
- Show Breakpoints
- Run to Cursor
- Watch...
- Inspect...
- Undo Delete
- Redo

Hot Swap Debugging

The screenshot shows an IDE interface with a stack trace on the left and source code on the right.

Stack Trace:

Class	Method
MyThirdBean	getBirthday
MyOtherBean	getBirthday
MyBean	getBirthday
MyBean	main

A context menu is open over the `MyBean.getBirthday` entry, with the following options:

- Pop Back to Here
- Go to Source for Method
- Export...
- Preferences...

Source Code:

```
public float getSalary() {
    return salary;
}

public void setName(String name) {
    this.name = name;
}

public String getName() {
    return name;
}

public void setBirthday(Date birthday) {
    this.birthday = birthday;
}

public Date getBirthday() {
    birthday = new Date();
    return birthday;
}
```

The `birthday = new Date();` line in the `getBirthday()` method is highlighted in blue. A red arrow points to this line from the `MyThirdBean.getBirthday()` entry in the stack trace.

Structure View:

MyThirdBean.java - Structure

- nyoug.demo
 - Imports
 - MyThirdBean
 - MyThirdBean()
 - getBirthday() : Date
 - getName() : String

Debugging PL/SQL (Oracle8i,9i)

Oracle9i JDeveloper - TechDay.jws : DebugPLSQL

File Edit Search View Project Run Debug Model Tools

TRYBUY BUY Buy.sql Problem.sql PROBLEM

Run Manager

Processes

- DebugPLSQL.jpr

System Run Manager Stack

BUY - Structure

- Buy
 - Buy(VARCHAR2)
 - myParser
 - myDoc
 - buyOrders
 - curBuy
 - trec

Procedure.TECHDAY.BUY.pls

```
1 PROCEDURE Buy(xml VARCHAR2) IS
2   myParser  dbms_xmlparser.parser := dbms_xmlparser.newparser;
3   myDoc     dbms_xmldom.DOMNode;
4   buyOrders dbms_xmldom.DOMNodeList;
5   curBuy    dbms_xmldom.DOMELEMENT;
6   trec      TRANSACTIONS%ROWTYPE;
7 BEGIN
8   dbms_xmlparser.parseBuffer(myParser,xml);
9   myDoc := dbms_xmldom.makeNode(dbms_xmlparser.getDocument(myParser));
10  buyOrders := dbms_xslprocessor.selectNodes(myDoc,'//buy');
11  FOR i IN 0..dbms_xmldom.getLength(buyOrders)-1 LOOP
12    curBuy := dbms_xmldom.makeElement(dbms_xmldom.item(buyOrders,i));
13    trec.acct := dbms_xmldom.getAttribute(curBuy,'acct');
14    trec.security := dbms_xmldom.getAttribute(curBuy,'ticker');
15    trec.shares := dbms_xmldom.getAttribute(curBuy,'shares');
16    INSERT INTO TRANSACTIONS(ACCT,SECURITY,SHARES)
17    VALUES (trec.acct, trec.security, trec.shares);
18  END LOOP;
19  COMMIT;
20 END;
```

Line 16 Column 1 Insert Unix: LF

Breakpoints

Description	Type
java.lang.Throwable, Persistent	Exception
Deadlock detection, Persistent	Deadlock
\$Oracle.Procedure.TECHDAY TRYBUY.pls 9	Source
\$Oracle.Procedure.TECHDAY BUY.pls 16	Source
\$Oracle.EXCEPTION_ORA_6502	Exception

Log Breakpoints

Watches

Name	Value	Type
TREC		Rowtype
ACCT	555	NUMBER
SECURITY	'T'	VARCHAR2(5)
SHARES	50	NUMBER

Smart Data Data Watches

Successful compilation: 0 errors, 0 warnings. Debugging

Execution Profiler

Call Sample Table: Profiling: Run 3 TTYCaffe.java

Called from :

Class	Method	Hit%
BenchmarkUnit	testScore	100....

Global stats, in method : **0.04%** On stack : **25.29%**

Method : **BenchmarkUnit.loopsPerSecond**

Signature : **()**

Called from code : **0.17%**

Calls :

Class	Method	Hit%
FloatAtom	execute	16.78%
LogicAtom	execute	16.78%
LoopAtom	execute	16.78%
MethodAtom	execute	16.61%
SieveAtom	execute	16.44%
StringAtom	execute	15.41%
StopWatch	Milliseconds	1.03%

2309 Samples

Class	Method	Hit%	On Stack%
[Root]	[Root]	0.00%	100.00%
TTYCaffe	main	0.00%	99.61%
BenchmarkUnit	testScore	0.00%	99.48%
BenchmarkUnit	testMilliseconds	0.04%	74.19%
BenchmarkUnit	loopsPerSecond	0.04%	25.29%
[Thread]	Finalizer	0.04%	0.00%
TTYCaffe	addtest	0.13%	0.13%
StopWatch	Milliseconds	0.26%	0.26%
[Thread]	main	0.35%	99.61%
MethodAtom	execute	0.69%	16.67%
MethodAtom	arithmeticSeries	5.89%	5.89%
MethodAtom	notInLineableSeries	10.09%	10.09%
SieveAtom	execute	15.55%	15.55%
StringAtom	execute	15.81%	15.81%
LoopAtom	execute	16.89%	16.89%
FloatAtom	execute	17.11%	17.11%
LogicAtom	execute	17.11%	17.11%

Memory Profiler

Memory Sample Table: Profiling: Run 4 TTYCaffe.java

21/24

Class	Count	Size	No. Alloc	Sz Alloc	No. Freed	Sz Freed	Diff Alloc	Diff Sz
Totals :	12988	1278586	1308	26233	0	0	1308	26233
char[]	1300	1005032	6	192	0	0	6	192
java.lang.String	8957	214968	5	120	0	0	5	120
java.util.Date	2487	49740	1291	25820	0	0	1291	25820
java.lang.StringBuffer	178	3026	0	0	0	0	0	0
int[]	3	2468	0	0	0	0	0	0
double[]	18	2280	0	0	0	0	0	0
BenchmarkUnit	6	144	0	0	0	0	0	0
double[][]	6	144	0	0	0	0	0	0
java.lang.String[]	1	140	0	0	0	0	0	0
byte[]	8	128	4	64	0	0	4	64
java.lang.Integer	9	108	1	12	0	0	1	12
java.lang.Object[]	2	104	0	0	0	0	0	0
StopWatch	4	100	1	25	0	0	1	25
java.util.Vector	2	48	0	0	0	0	0	0
FloatAtom	1	32	0	0	0	0	0	0
java.lang.ref.Finalizer	1	28	0	0	0	0	0	0
LoopAtom	1	28	0	0	0	0	0	0
StringAtom	1	24	0	0	0	0	0	0
MethodAtom	1	16	0	0	0	0	0	0
SieveAtom	1	16	0	0	0	0	0	0
LogicAtom	1	12	0	0	0	0	0	0
.	-	-	-	-	-	-	-	-

Event Profiler

Events Table: Profiling: Run 3 Package4ModuleImpl.java

Event	Position	Start	End	Dur.
VIEWOBJECT_GET...	Unknown	47.33628	47.33880	0.00252
JDBC_CREATE_ST...	Unknown	47.33649	47.33872	0.00223
GC	Unknown	47.39372	47.41467	0.02095
GC	Unknown	49.11335	49.13551	0.02216
EXECUTE_QUERY	Unknown	49.14839	49.15354	0.00515
VIEWOBJECT_GET...	Unknown	49.14854	49.15066	0.00212
JDBC_CREATE_ST...	Unknown	49.14877	49.15057	0.00180
GC	Unknown	49.16222	49.23077	0.06855
EXECUTE_QUERY	Unknown	50.01442	50.01964	0.00522
VIEWOBJECT_GET...	Unknown	50.01458	50.01644	0.00186
JDBC_CREATE_ST...	Unknown	50.01479	50.01636	0.00157
GC	Unknown	50.06797	50.08661	0.01864
GC	Unknown	50.91839	50.95724	0.03885
EXECUTE_QUERY	Unknown	50.97603	50.98080	0.00477

Code Position : Unknown

Comment : EXECUTE_QUERY - ViewObject executeQueryForCollection DeptView

The screenshot shows the TCP Packet Monitor application window. It has a title bar 'TCP Packet Monitor' and two tabs: 'History' and 'Data'. Below the tabs is a toolbar with icons for play, stop, save, print, refresh, and navigation. The main area is divided into two sections: 'Request: localhost' and 'Response: localhost:8888'. The request section shows an HTTP request with headers and a SOAP XML body. The response section shows an HTTP response with headers and a SOAP XML body.

```
Request: localhost
Accept-Encoding: deflate, gzip, x-gzip, compress, x-co
Content-type: text/xml; charset=utf-8
Content-length: 456

<?xml version = '1.0' encoding = 'UTF-8'?>
<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmls
  <SOAP-ENV:Body>
    <ns1:lookupsalary xmlns:ns1="EmployeeService" SO
      <empid xsi:type="xsd:decimal">7839</empid>
    </ns1:lookupsalary>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>

Response: localhost:8888
HTTP/1.1 200 OK
Date: Thu, 04 Jul 2002 04:55:47 GMT
Server: Oracle9iAS (9.0.3.0.0) Containers for J2EE
Content-Length: 476
Connection: Close
Content-Type: text/xml; charset=utf-8

<?xml version = '1.0' encoding = 'UTF-8'?>
<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmls
  <SOAP-ENV:Body>
    <ns1:lookupsalaryResponse xmlns:ns1="EmployeeSer
      <return xsi:type="xsd:decimal">5000</return>
    </ns1:lookupsalaryResponse>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

TCP Packet Monitor

- Analyze and Debug Web Service Traffic
- Edit/Resend Packets

Standard WS-I Log File, Formatting

Oracle JDeveloper 10g - Application16.jws : Model.jpr

File Edit Search View Project Run Debug Versioning Tools Window Help

Applications - Navigator

- GreetingWS
 - EmbeddedGreetingWSSStub.java
 - Greeting.java
- Web Content
 - WEB-INF
 - Miscellaneous Files
 - wsi-log.html
 - wsi-log.xml
 - wsi-report.xml
- Resources
 - Applications
 - wsi-log.xml - S
- XML Structure

ws-log.html

WS-I Testing Tools Log File

2003-09-04T17:55:13.362Z

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Also, [Feedback](#) can be provided to the WS-I Organization.

Monitor Tool Information

Version	1.0
Release Date	2003-05-01

Design Code Preview

WS-I Profile Conformance

The screenshot displays the Oracle JDeveloper 10g IDE interface. The main window shows a web browser displaying the "WS-I Profile Conformance Report". The report title is "WS-I Profile Conformance Report" and it includes the WS-I logo (Web Services Interoperability Organization). The report content states: "WS-I Basic Profile Conformance Draft Report. This is a prerelease version and no statement can be made from this report on WS-I conformance." The timestamp is "2003-09-04T17:56:22.912Z". A copyright notice follows: "Copyright (c) 2002-2003 by The Web Services-Interoperability Organization and Certain of its Members. All Rights Reserved." Below this, it says: "Review the [Notice](#) and [License](#) for information on the usage of this document. Also, [Feedback](#) can be provided to the WS-I Organization." The IDE interface includes a menu bar (File, Edit, Search, View, Project, Run, Debug, Versioning, Tools, Window, Help), a toolbar, and several panels: Applications - Navigator, Web Content, Resources, Applications, Connections, and a Structure view for wsi-report.html showing HTML elements like head, title, style, body, a, img, h1, table, and hr. The bottom of the IDE has tabs for Design, Code, and Preview.

Oracle JDeveloper 10g - Application16.jws : Model.jpr

File Edit Search View Project Run Debug Versioning Tools Window Help

Applications - Navigator

- GreetingWS
 - EmbeddedGreetingWSSStub.java
 - Greeting.java
- Web Content
 - WEB-INF
 - Miscellaneous Files
 - wsi-log.html
 - wsi-log.xml
 - wsi-report.html

Resources

Applications Connections


wsi-report.html - Structure

- HTML Structure
 - html
 - head
 - META
 - title
 - style
 - body
 - a
 - img
 - h1
 - table
 - hr

ws-report.html

html:./D:/wsi-test-tools/java/wsi-report.html

WS-I Profile Conformance Report



WS-I
WEB SERVICES
INTEROPERABILITY
ORGANIZATION

Report: WS-I Basic Profile Conformance Draft Report. This is a prerelease version and no statement can be made from this report on WS-I conformance.

Timestamp: 2003-09-04T17:56:22.912Z

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Design Code Preview

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Widely Used
Than Ever

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- Complex, Scalable J2EE Business Applications
- Self-Service Web, Batch, and Web Services Interfaces
- Handful of Teams Using Swing Clients as Well
 - JClient/Swing Use Much Higher Externally
 - Some External Customers Have Implemented Entire ERP Systems
- Targeting Intranet and Internet Deployment on J2EE
- To Implement Design Patterns and Save on Testing



http://ilearning.oracle.com

Learner Home

Back

Google

Links Bugs Financial OTN TechDay XML Demo 9iDoc Adhoc Dive DiveP Mine

LEARN ORACLE FROM ORACLE Oracle University

Admin Email Help Logout

Catalog Home Calendar Profile

Overview Self-Paced Scheduled Integrated Learning Open Chats Open Forums

Search Catalog

Go

Exact phrase
Advanced Search...

Browse Catalog

- Free Trial Area
- inClass Related Courses
- Job Role and Path
- Management and Professional Development
- Oracle Business Processes
- Premium Library
- Product Courses

Steven Muench

Recently Accessed Learning [Full List](#)

Play	Offering	Accessed
	Oracle University Online Guided Tour	12/8/01

Announcements

- [Oracle University Online Library Technical Support](#)
- [Welcome to the Oracle University Online Library!](#)
- [Take the Oracle University Online Library Guided Tour](#)
- [Order Activation Instructions](#)
- [We Want to Hear Your Opinion!](#)
- [I would like to Submit a Topic or Course for Potential Development](#)
- [Free Trial Area Content](#)

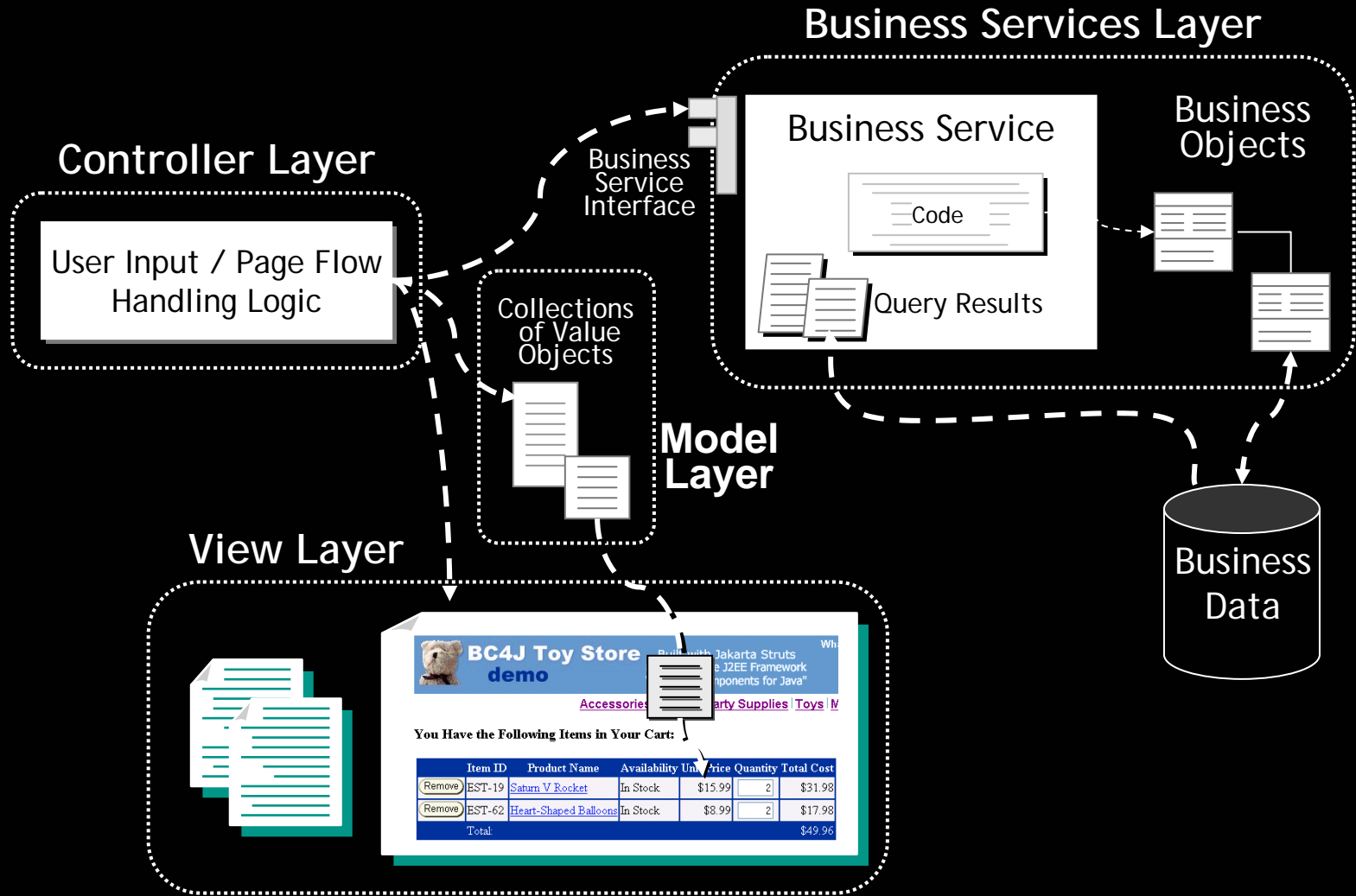
- 8 Midtier Boxes (Mix of Linux and Solaris)
- One Big Database on Big Sun box
- 100,000 student sessions per day
- All BC4J based

Building Your First J2EE App With JDev 10g

First Things First: Need to Understand...

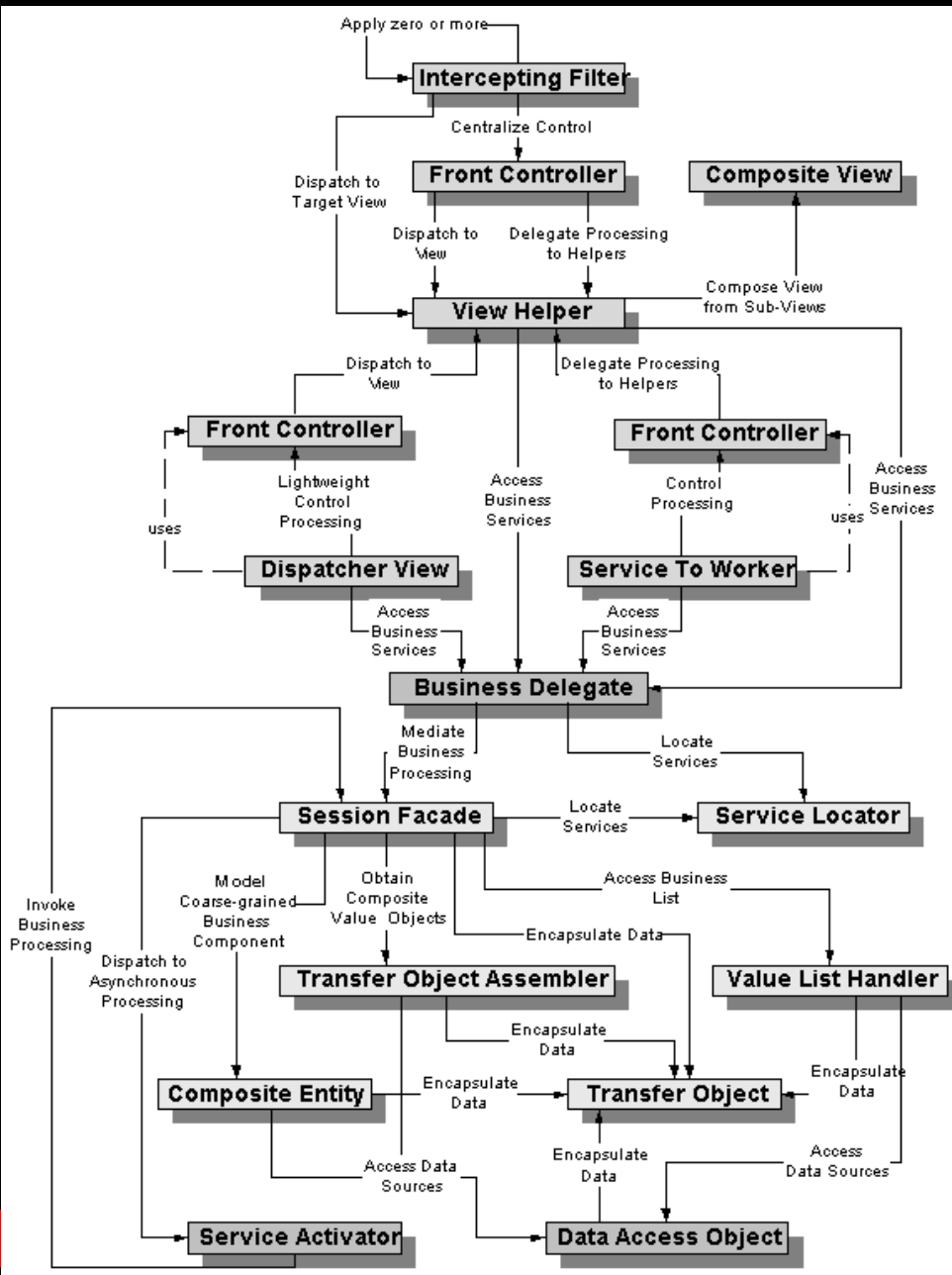
- Model, View, Controller Architecture
- J2EE Design Patterns
- What Role a Framework Can Play
- How Forms Concepts Map to Oracle ADF

Model / View / Controller Architecture



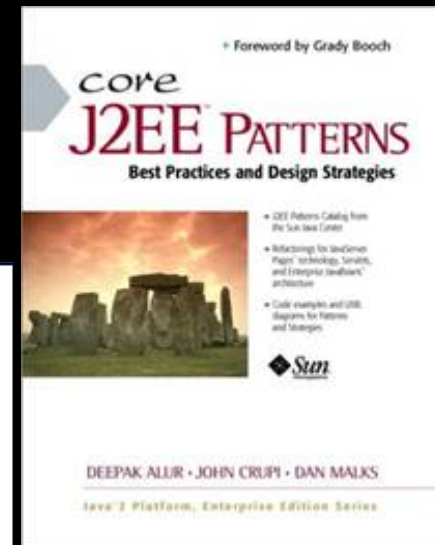
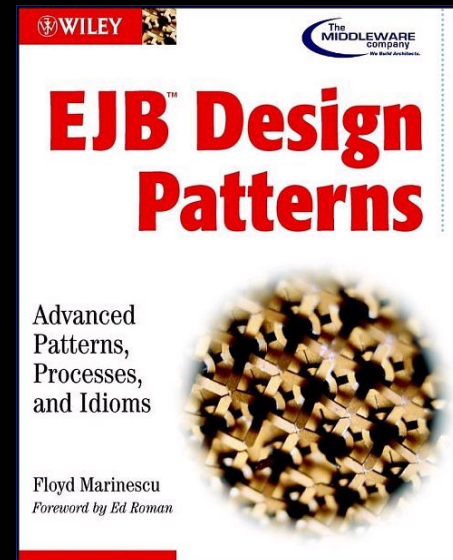
J2EE Design Patterns

- Required for All Real World Applications
- Implementing Them Is:
 - Time Consuming
 - Error Prone
 - Tedious
 - More to Test, Debug, and Maintain
- Don't You Have An *Application* to Finish?




J2EE Design Patterns Books

- Best Practice Techniques
 - Improve Performance
 - Increase Maintainability
 - Avoid Typical Problems
- Application Architecture Ideas
 - What To Do In Which Tier
 - Which J2EE Technology When?
- Paragraphs of Text/Diagrams
 - Not Ready-to-use Code



J2EE Expert's Advice

“Many common problems (beyond those addressed by J2EE application servers) have been solved well by open source or commercial packages and frameworks. In such cases, designing and implementing a proprietary solution may be wasted effort. By adopting an existing solution, we are free to devote all our effort to meeting business requirements. ”



The image shows the front cover of the book "J2EE Design and Development" by Rod Johnson. The cover is primarily red with a white section at the top. In the top right corner, it says "Programmer to Programmer". Below that is a black and white photograph of Rod Johnson, a man with short hair, wearing a light-colored shirt, looking directly at the camera with his hand near his chin. To the left of the photo, there is a short biography of Rod Johnson. The title "expert one-on-one J2EE Design and Development" is written in white and yellow text on the red background. At the bottom left is the No Starch Press logo, and at the bottom right are contact details for technical support, updates, and purchasing the book.

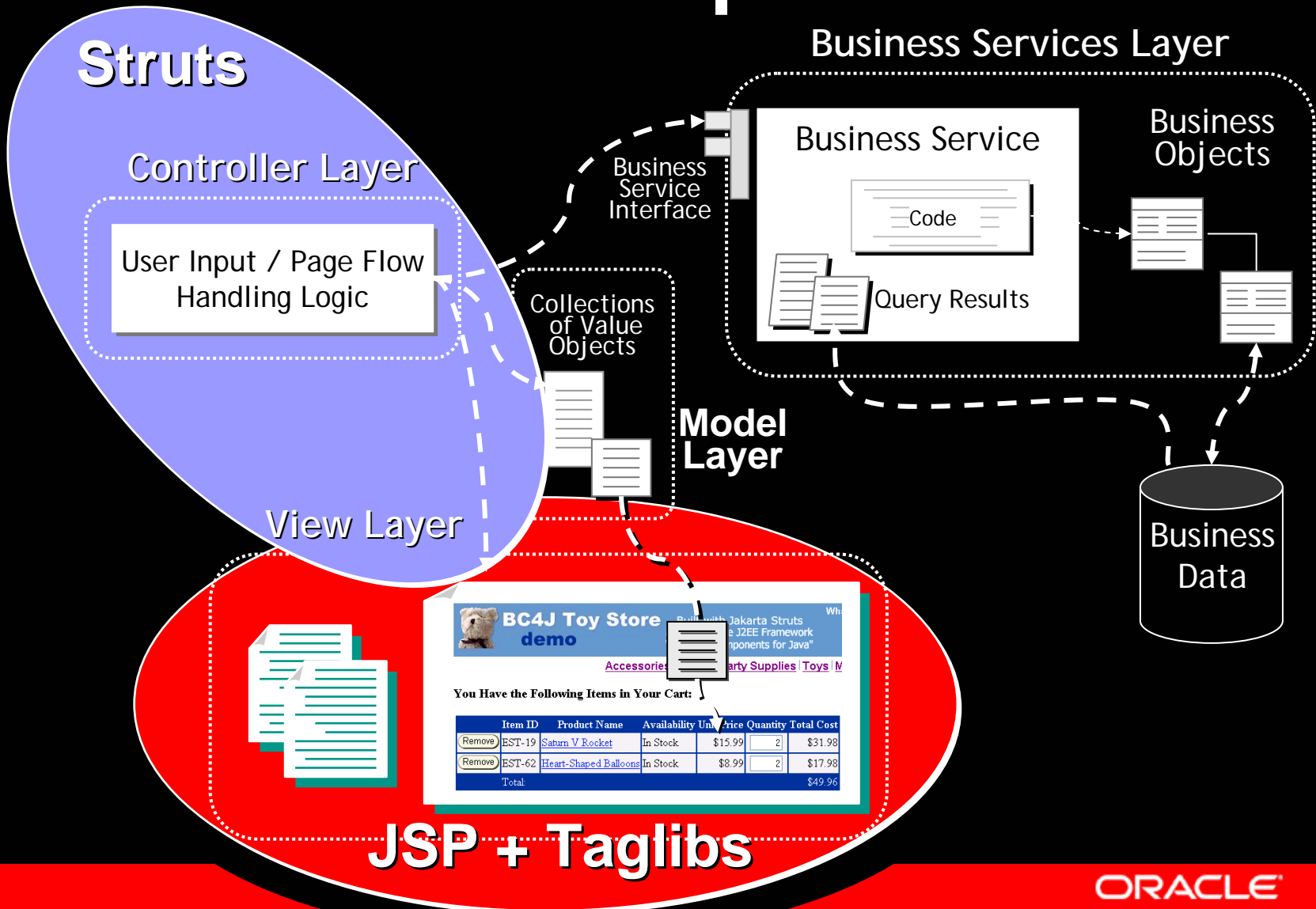
Programmer to Programmer™

Rod Johnson
Rod Johnson is an enterprise Java architect specializing in scalable web applications. He has worked with such Java and J2EE pioneers as Mark Reinhold, and he is a member of the J2EE Expert Group writing the Servlet 2.4 specification.

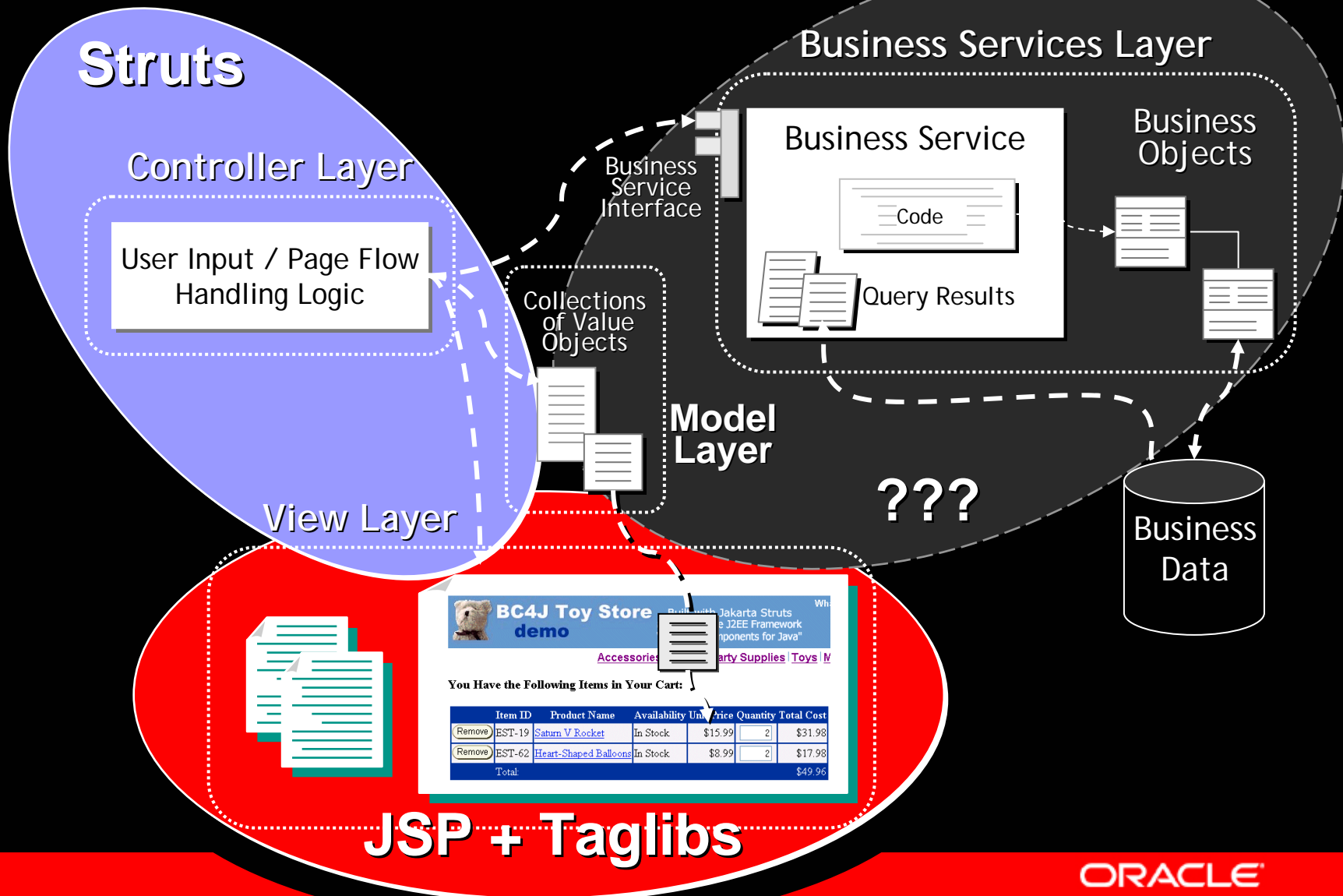
expert one-on-one
J2EE Design and Development

View technical support at: support@no-starch.com
Updates and source code at: www.no-starch.com
Discuss the book with Rod at: <http://www.no-starch.com>

Popular Framework-Based Techniques



Model, Services, Data Access, Business Objects Often Hand-Coded



BC4J Toy Store demo

Accessories | Party Supplies | Toys | More

You Have the Following Items in Your Cart:

	Item ID	Product Name	Availability	Unit Price	Quantity	Total Cost
Remove	EST-19	Saturn V Rocket	In Stock	\$15.99	2	\$31.98
Remove	EST-62	Heart-Shaped Balloons	In Stock	\$8.99	2	\$17.98
Total:						\$49.96

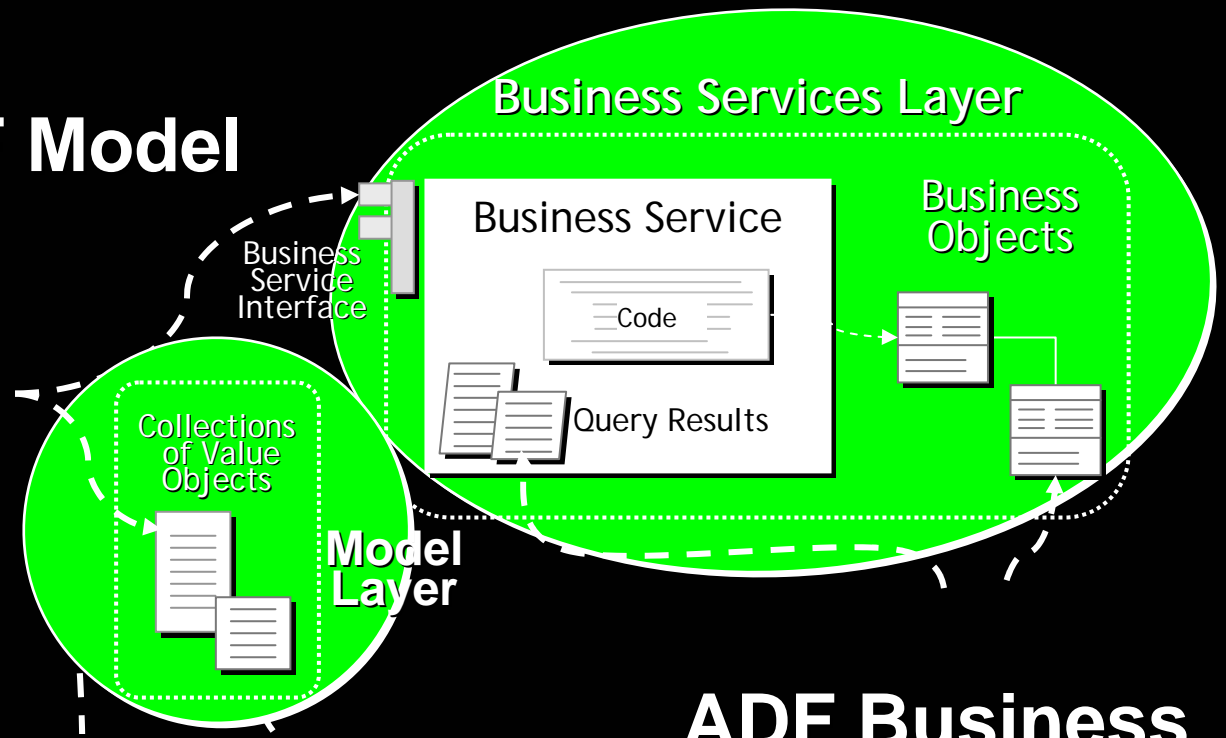
JSP + Taglibs

Framework Can Complement Struts or Swing to Help Build Business Services and Model

- Simplify Implementing Business Services
- Simplify Managing Persistent Business Objects
- Simplify Enforcing Reusable Business Rules
- Simplify Writing Data Access Objects
- Simplify Coordinating DAO's with BO's
- Simplify Handling and Presenting Errors
- Simplify Internationalization

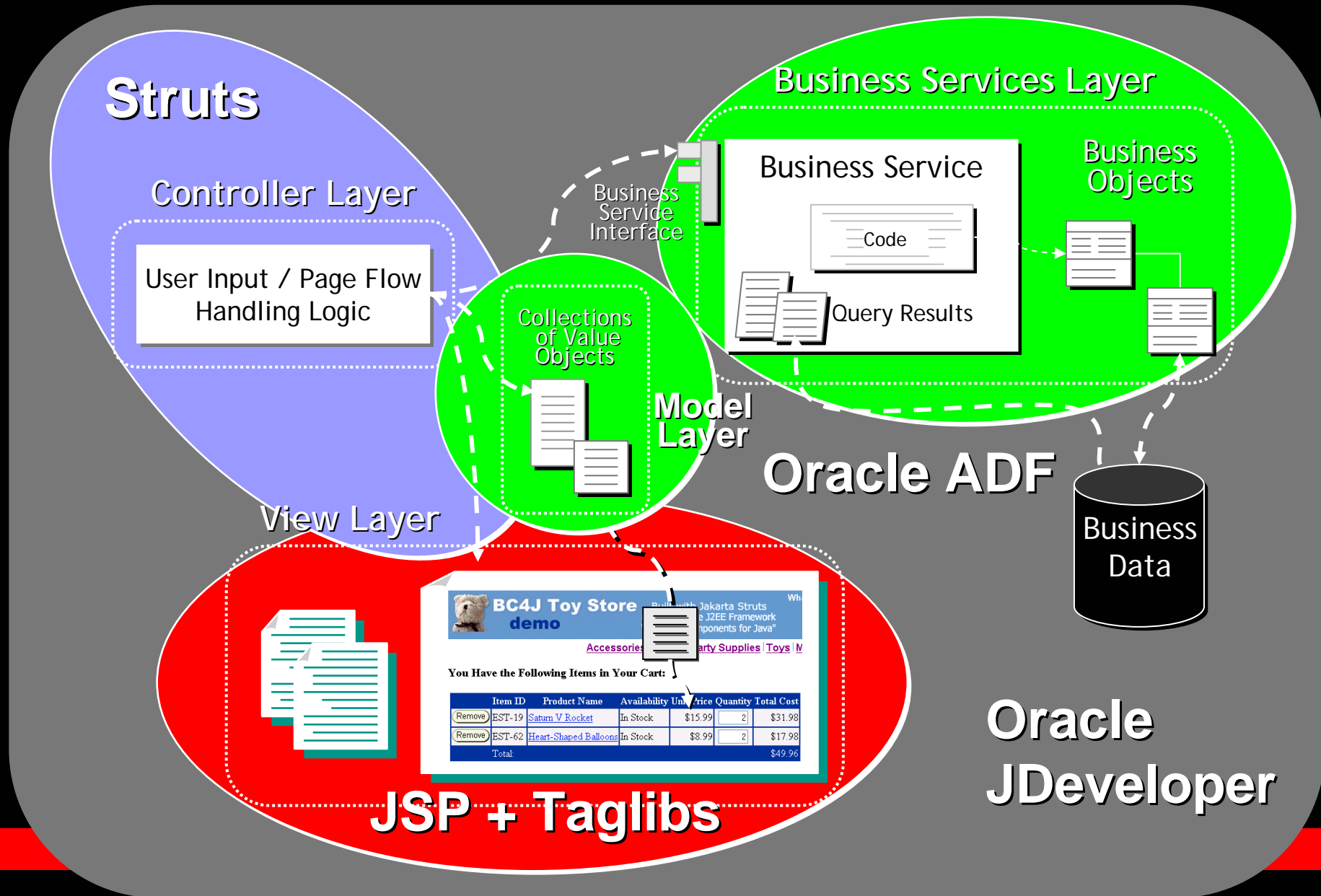
Oracle ADF Framework

ADF Model



ADF Business Components

Oracle JDeveloper IDE



Struts

Controller Layer

User Input / Page Flow Handling Logic

Business Services Layer

Business Service

Code

Query Results

Business Objects

Collections of Value Objects

Model Layer

Oracle ADF

View Layer

Business Data



BC4J Toy Store demo

Accessories | Party Supplies | Toys | More

You Have the Following Items in Your Cart:

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JSP + Taglibs

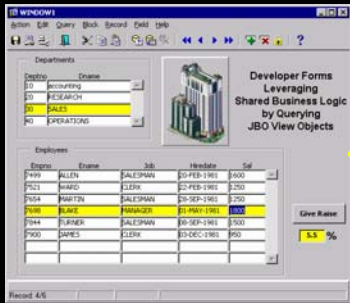
Oracle JDeveloper

Oracle ADF Business Components Building Blocks

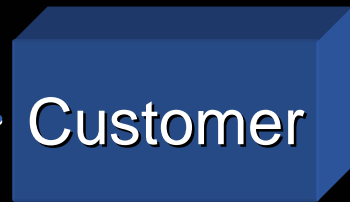
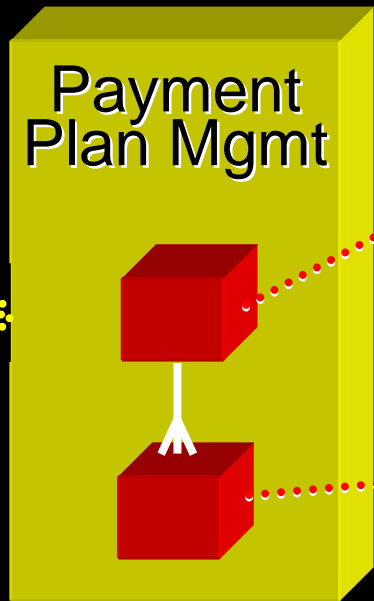
HTML & Java
User Interfaces

Data
Binding

Business Services Layer



Web Services



Step by Step Guide

- Organize the Projects in Your Workspace
 - Separate the Model Project
 - Often Convenient to Keep View/Controller Together
- Use Java Packages to Organize Components
 - model . business
 - model . queries
 - model . services
- Create or Reverse-Engineer Entity Objects
 - To Encapsulate Validation & Persistence Details

Step by Step Guide

- Setup Any Known Validation Rules
 - Required, Updateability, Validation, Etc.
 - Declarative Rules
 - Method-based Rules
- Setup Database Sequence-Valued Primary Keys
- Setup UI Control Hints
 - Labels

Step by Step Guide

- Think About a Given End-User Use Case
 - For Example, Browse and Edit Employees
 - Identifies Which Business Objects Are Involved
 - Could Use the New Use Case Diagrammer
- Start By Creating Some Skeleton Pages
 - Helps Think About What Data You Will Need
- Default View Objects for Involved Entities
 - Or Reuse Existing View Objects if They Exist
- Create Application Module to Support Use Case
 - This is the Business Service That Manages Data

Step by Step Guide

- Both Wizards and UML Modelers Available
 - Can Help Get and Communicate the Big Picture
 - Onscreen Editing, Too
- Customize the Queries to Join/Project Data
 - Only Query the Data You Need
 - Query All the Data You Can in One Query
- Test the Application Module
 - Don't Need a UI to Test the Business Service
- Use Data Control Palette to Drop Initial UI
 - Table for the Browse Form, Input Form for the Edit
- Use Visual Editor to Tailor the UI
 - For example, Change a Text Field to a Pop List

Step by Step Guide

- Link the Pages Together
 - Select Row Link
 - setCurrentRowWithKey() Method
 - Link back to the browse page
- Run or Debug the Application
 - Runs on the Embedded Container

Business Service Components

The screenshot displays the Oracle JDeveloper 10g IDE interface for a project named 'Application6.jws : Model.jpr'. The main workspace shows a Business Components Diagram (BCD) for an application module named 'MyService'. The diagram includes the following components and relationships:

- Entity Objects:**
 - «entity object» Dept:** Attributes include Deptno : Number, Dname : String, and Loc : String.
 - «entity object» Emp:** Attributes include Empno : Number, Ename : String, Job : String, Mgr : Number, Hiredate : Date, Sal : Number, Comm : Number, and Deptno : Number.
- Association:** A bidirectional association exists between Dept and Emp with a multiplicity of 0..1 at the Dept end and * at the Emp end.
- Application Module:** «application module» MyService contains:
 - «view object» EmpView:** Attributes include Empno : Number, Ename : String, Sal : Number, Deptno : Number, Dname : String, Loc : String, and Deptno1 : Number. It contains two nested view objects: «view object» Emp and «view object» Dept.
 - «view object» Departments:** A view object representing the Dept entity.
 - «view object» EmployeesInDepartment:** A view object representing the Emp entity.
- Association in View:** A bidirectional association exists between Departments and EmployeesInDepartment with a multiplicity of 0..1 at the Departments end and * at the EmployeesInDepartment end.

The interface also shows the Applications - Navigator on the left, the Design - Structure on the bottom left, the Component Palette on the right, and the MyService - Property Inspector at the bottom right.

Browse Page with Page Flow

The screenshot displays the Oracle JDeveloper 10g IDE interface. The main window shows the JSP page `showEmployees.jsp` in Design mode. The page contains a table with columns for employee ID and name, and a `forEach` loop. The `showEmployees.jsp` page is part of a Struts Page Flow diagram, which shows a flow from `/editEmployee.jsp` to `/showEmployees.jsp` via a `success` action.

Applications - Navigator

- Applications
 - Application6
 - Model
 - Application Sources
 - model.business
 - Dept
 - Emp
 - WorksInDeptAssoc
 - model.dataaccess
 - model.design
 - Design
 - model.services
 - ViewController

showEmployees.jsp - Structure

- showEmployeesUIModel
 - EmployeesIterator
 - Employees

showEmployees.jsp - Code

```
errors
```

<code>{bindings Employees labels Empno}</code>	<code>{bindings Employees labels Ename}</code>	<code>{</code>
--	--	----------------

`forEach {bindings.Employees.rangeSet}`

<code>{Row.Empno}</code>	<code>{Row.Ename}</code>	<code>{</code>
--------------------------	--------------------------	----------------

Struts Page Flow Diagram

```
graph TD; Edit["/editEmployee.jsp"] -- success --> Show["/showEmployees.jsp"]; Edit -.-> Show;
```

Data Control Palette

- model_services_MyServiceDataCont
 - Departments
 - Employees
 - Operations

body - Property Inspector

aLink	
background	
bgColor	
class	
dir	
id	
lang	
link	
onClick	
onDbClick	
onKeyDown	
onKeyPress	
onKeyUp	
onLoad	
onMouseDown	
color of selected links	

Edit Page with Page Flow

The screenshot displays the Oracle JDeveloper 10g IDE with the following components:

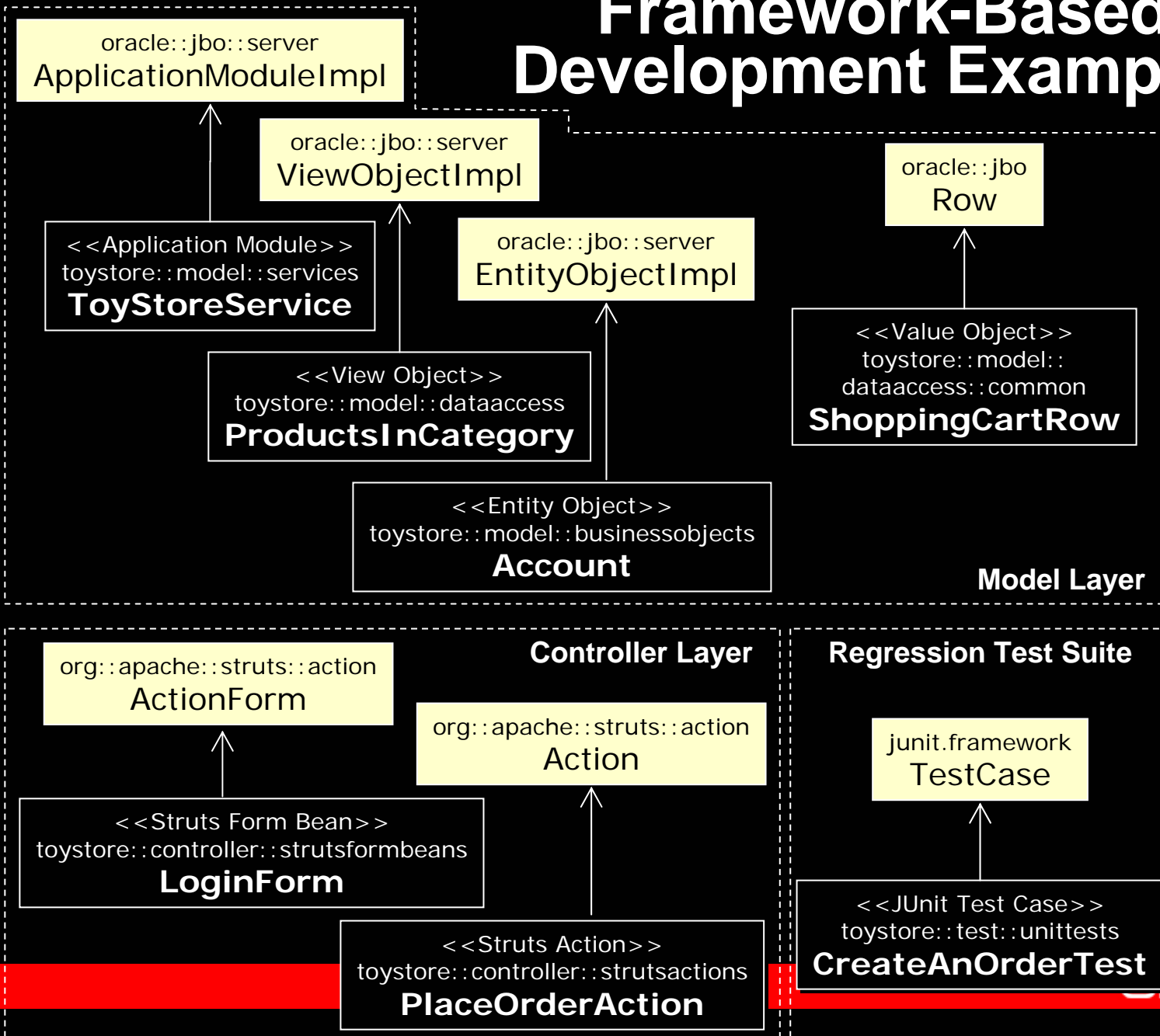
- Applications - Navigator:** Shows the project structure for Application6, including Model, Application Sources, and ViewController.
- editEmployee.jsp - Structure:** Lists the UI model components for editEmployee.jsp, such as EmployeesIterator, DepartmentsIterator, and various attributes like Empno, Ename, Sal, Deptno, Dname, Loc, Deptno1, and Deptno2.
- Design View:** Shows the visual representation of the editEmployee.jsp page. It features a form with five input fields: Empno, Ename, Sal, Deptno, and Loc. A Submit button is located below the form. A link is present at the bottom with the key 'link.showEmployees'.
- Struts Page Flow Diagram:** Illustrates the navigation flow between pages. It shows three pages: /editEmployees, /showEmployees, and /showEmployees.jsp. Solid arrows indicate successful transitions from /editEmployees to /showEmployees and from /editEmployees to /showEmployees.jsp. A dashed arrow indicates a transition from /showEmployees to /showEmployees.jsp.
- Data Control Palette:** Lists data sources: model_services_MyServiceDataCont, Departments, Employees, and Operations.
- html:link - Property Inspector:** Provides a list of properties for the link component, including accesskey, action, anchor, forward, href, indexed, indexId, linkName, name, onBlur, onClick, onDbClick, onFocus, onKeyDown, and onKeyPress.

Struts / BC4J Toy Store Demo

http://otn.oracle.com/sample_code/products/jdev/bc4jtoystore

The screenshot shows a web browser window titled "BC4J Toy Store Demo - Microsoft Internet Explorer". The address bar displays "http://localhost:8988/BC4JToyStore/index.jsp". The page features a blue header with a teddy bear icon, the text "BC4J Toy Store demo", and "Built with Jakarta Struts and the Oracle J2EE Framework 'Business Components for Java'". A search bar with the text "What are you looking for?" and a magnifying glass icon is present, along with icons for a shopping cart, a key, and a question mark. The main content area is divided into a left sidebar and a central product display. The sidebar lists categories: "Accessories" (Those small but important details), "Games" (Things to make you think), "Party Supplies" (For the festive among us), "Toys" (Ducks, Dinosaurs, and more), and "Models" (Rebuild the world around you). The central display features a large teddy bear image surrounded by six smaller product images: a board game, a yellow taxi, a chess set, a monkey, and balloons.

Framework-Based Development Examples



Our Job is Never Done

- Rich-Client GUI Development
 - Still Requires More Swing Expertise Than It Should
 - Layout Managers Add Power, but Complexity
- Visual, Declarative Development
 - For 10g, We Have Achieved it For UIX Pages
 - For Future Releases, We Want it For Swing, too
 - For 10g, We've Made Binding Declarative
- Successful JClient Users Using UI Frameworks
 - Some Built In-House
 - Some Built Using OpenSource Like JGoodies

Visual UI Form and Panel Editing

The screenshot displays the Oracle9i JDeveloper IDE interface for editing a Java Swing window. The main workspace shows a window titled "C:\mywork\jclient\JClientWork\TestProject" with a menu bar (File, Database, Help) and a toolbar. The window content includes a "Department" tabbed pane with "Employee" selected, a "Department Id:" label, a "Name:" text field, and a "Modified:" label. The "jTextField1 - Constraints" panel on the left shows grid position (X: 1, Y: 0, Width: 1, Height: 1) and external insets (Top: 5, Left: 5, Bottom: 5, Right: 5). The "jTextField1 (JTextField) - Property Inspector" on the right lists various properties such as action, alignmentX, alignmentY, autoscrolls, background, border, caret, caretColor, caretPosition, columns, constraints, debugGraphi..., disabledText..., document, doubleBuffer..., and editable. The "FormHRModule.java - Structure" panel at the bottom left shows a tree view of the UI components, including BorderLayout, NavBar, dataPanel (BorderLayout), BorderLayout1, JTabbedPane1, <BasicTabbedPaneUI\$, JPanel1 (GridBagLayout), gridBagLayout1, and jTextField1. The status bar at the bottom indicates "statusBar (2, 0)" and "UI Editing".

Oracle9i JDeveloper - JClientWork.jws : TestProject.jpr

File Edit Search View Project Run Debug Model Tools Window Help

EmpPanel.java EmpImplMsgBundle.java Swing

jTextField1 - Constraints

Grid Position
X: 1
Y: 0
Width: 1
Height: 1

External Insets
Top: 5
Left: 5
Bottom: 5
Right: 5

Size P
Width:
Height:

Weight
X: 0.0
Y: 0.0

Anchor
 NW N
 W C

System Constraints

FormHRModule.java - Structure

- borderLayout
- navBar
- dataPanel (BorderLayout)
 - borderLayout1
 - JTabbedPane1
 - <BasicTabbedPaneUI\$
 - JPanel1 (GridBagLayout)
 - gridBagLayout1
 - jTextField1

C:\mywork\jclient\JClientWork\TestProject

File Database Help

Department Employee

Department Id:
Name:

Modified:

jTextField1 (JTextField) - Property Inspector

action	<default>
actionMap	<default>
alignmentX	0.5
alignmentY	0.5
autoscrolls	True
background	<input type="checkbox"/> Color.white
border	<default>
caret	<default>
caretColor	<input checked="" type="checkbox"/> Color.black
caretPosition	0
columns	0
constraints	[1, 0, 1, 1, 0.0, 0...
debugGraphi...	NONE_OPTION
disabledText...	<input type="checkbox"/> 172, 168, 153
document	Departments.Dep...
doubleBuffer...	False
editable	True

The Action Instance connected with this ActionEvent source

Properties Events

statusBar (2, 0) UI Editing

Example of Custom Framework

- Hundreds of UI Screens to Build
- Many Developers Working On System
- Team UI Standards to Enforce
- Instead of Designing Each Screen By Hand...
- Build a Custom Framework!

```
C:\Techday\SmartTest\src\bolzano\EmpPanel.xml
1 <panel datamodel='TestProject.HRModule' xmlns='urn:jclient-smartpanel'>
2   <table border-style="" cellpadding="2" viewobject='AllEmployees'>
3     <tr>
4       <th><label attr="Empno"/></th>
5       <td><display attr="Empno" size="5"/></td>
6       <th><label attr="Ename"/></th>
7       <td><display attr="Ename"/></td>
8     </tr>
9     <tr>
10      <th><label attr="Hiredate"/></th>
11      <td><display attr="Hiredate" align="right"/></td>
12      <th><label attr="WorksInDeptno"/></th>
13      <td>
14        <poplist attr="WorksInDeptno"
15          list-viewobject="Departments" list-target-attrs="WorksInDeptno"
16          list-value-attrs="Deptno" list-display-attrs="Dname"/>
17      </td>
18    </tr>
19    <tr>
20      <th><label attr="Sal"/></th>
```

it.azienda.util.SmartPanel

JClient panel

File Database

Employee Id:	7782	Employee Name:	CLARK
Date of Hire:	09-Jun-1981	Department:	ACCOUNTING
Salary:	\$2,450.00	Manager:	KING
Manager's Salary:	\$5,000.00	Location:	NEW YORK
Pct of Mgr:	49.00%		

Percentage of manager's salary

JGoodies Framework

The screenshot shows a Java Swing window titled "The JGoodies Forms Demo". The window has a menu bar with "File" and "Help". On the left is a tree view of examples, with "Building - Dynamic Rows" selected. The main area is divided into three sections: "Description", "Layout", and "Criteria".

Description

- Demonstrates how to add rows dynamically to a FormLayout.
- Defines columns statically and rows dynamically, and adds components via the PanelBuilder.

Layout

Segment

Identifier

PTI [kW] Power [kW]

len [mm]

Diameters

da [mm] di [mm]

da2 [mm] di2 [mm]

R [mm] D [mm]

Criteria

Location k-factor

Holes Has radial holes

Slots Has longitudinal slots

© 2003 JGoodies.com



<http://forms.dev.java.net>



http://otn.oracle.com

Oracle Te

Back

Google



Oracle.com



Products



Oracle Store



Downloads



My Profile



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Ask the Oracle Concierge.

Technology Centers

- Grid
- Java
- Linux
- Web Services
- Windows
- XML
- More...

Products

- Oracle Database
- Oracle Application Server
- Oracle Developer Suite
- Oracle JDeveloper**
- Oracle Collaboration Suite

Services

- Download Software
- Order Software on CD
- Get Support
- Market Your Skills
- Submit Articles

Wednesday, September 10, 2003



OracleWorld 2003: Now in Session

This week Oracle announces [Oracle Database 10g](#) and [Oracle Application Server 10g](#), the first complete, integrated infrastructure software to help you develop, deploy, and manage applications for an enterprise grid built on low-cost, modular storage and server hardware. **See today's agenda highlights below**, and be sure to check back daily for updates.

▶ Catch Up on Today's OracleWorld News

Ellison Launches Oracle Enterprise Grid, A Look at Implementing BC4J with Struts, Using ASM to Simplify Your Job, Users Shaping the Future of Forms, Solving a Persistent Problem [\[More...\]](#)

▶ Register Online to be Notified About Oracle 10g Availability

▶ Review New Oracle 10g Technical Information

[Oracle Database 10g](#), [Oracle Application Server 10g](#), [Oracle JDeveloper 10g](#)

▶ Review Today's Featured Tech Sessions

Understanding the Impact of J2EE Applications on Relational Database Standards-Based Business Processes with Web Services (4002) with Oracle JDeveloper 10g – Focus on the MVC Model (40224) [

▶ Learn How to Build Your Own Oracle RAC-Capable Linux Cluster

Visit OTN in the Oracle DEMOgrounds and see our 4-node Firewire (OCFS) cluster in action. Also, get a chance to speak to the developer [source projects](#).

▶ Attend Today's Guru Chats

Top Content

- Get Started with Oracle Products
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- XML** Oracle RSS Newsfeeds
- Oracle Open Source Projects
- Code of the Week
- Oracle By Example Series
- Download OTN Toolbar

Top Downloads

- Oracle Application Server Containers for J2EE 10g (10.0.3) Developer

Oracle JDeveloper 10g Preview

Productivity with Choice

ORACLE

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Done

Internet



http://radio.weblogs.com/0118231/

Updated: 9/8/2003; 11:14:34 PM.



Dive into BC4J

Tips and tricks from Steve Muench on using Oracle's J2EE framework, JDeveloper9i Java IDE, and XML...



Monday, September 08, 2003

[ADF Data Binding Primer Article](#)

This [article](#) I've been working on for the last few weeks (in between helping find last minute show-stopper problems to get JDeveloper 10g Preview out the door) explains the basics of the new Oracle Application Development Framework's Data Binding layer.

It gives an overview of the ADF's runtime and design time data binding facilities and puts the concepts into practice with a simple sample application. It's a special OracleWorld draft that will be eventually uploaded to OTN once I get back to the office.

I'm posting this from a T-Mobile wireless hotspot in the Starbucks on the corner of O'Farrell and Cyril Magnin Place in San Francisco, near the Moscone Center where OracleWorld is happening this week.

Enjoy.

10:53:04 PM #

[And OTN Said, "Let there be 10g". And there was.](#)

The downloadable bits are now in place and available on OTN for JDeveloper 10g.

Visit the [Product Tour and Download page](#), and don't forget to checkout the demos and tutorials available. They will help you get the smoothest start with this new major release.



Once you download and startup the tool, pick **Help | Release Notes** from the main menu to read over any

September 2003

Sun Mon Tue Wed Thu Fri Sat

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7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

[Aug](#) Oct

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- [BC4J Toy Store Demo](#)
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- [JDev Discussion Forum](#)
- [OTN HowTo Documents](#)
- [Sung Im \(BC4J\)](#)
- [Brian Duff](#)



RSS for Charity

[java.blog](#)





Q U E S T I O N S
A N S W E R S