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# Twelve Reasons to Use the Sun Java™ Studio Creator 2 IDE

**Inyoung Cho**

Technology Evangelist

**Charles Ditzel**

Technologist

**Octavian Tanase**

Group Engineering Manager

**Sun Microsystems, Inc.**

TS-4386

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[java.sun.com/javaone/sf](http://java.sun.com/javaone/sf)

# Goal

Understand the new benefits and features that the Sun Java™ Studio Creator 2 IDE offers developers.

Learn how fast Java Studio Creator 2 software has been growing this past year and where it is going next.

# Agenda

What Is Java Studio Creator 2 Software?

Twelve Reasons to Use  
the Java Studio Creator 2 Software

Summary and More Information

Q&A

# What Is Java Studio Creator 2 Software?

# What Is Java Studio Creator 2 Software?

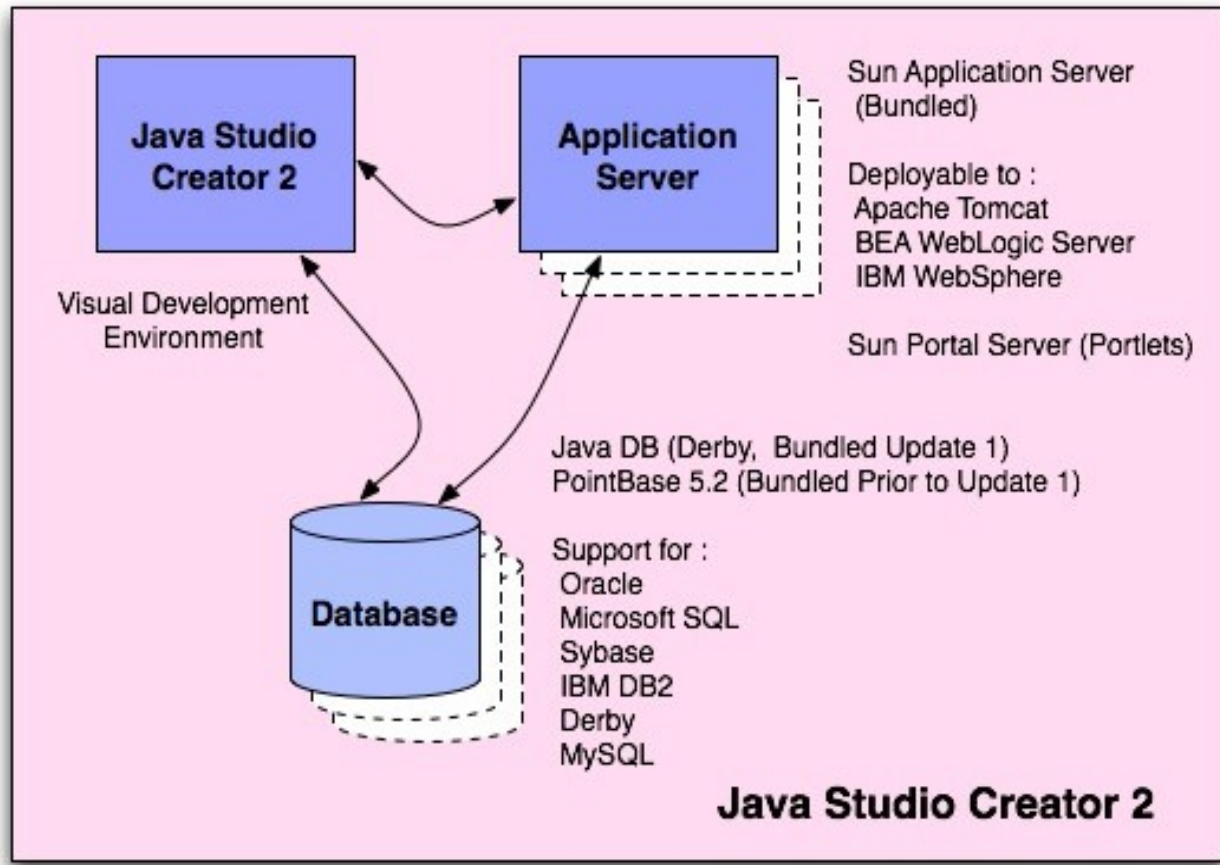
- Based on the standard Java platform
- Based on the extremely popular NetBeans™ development environment
- Provides a visual development environment to easily build web applications and portlets
- Enables development of Web 2.0 applications, with AJAX-enabled JSF components
- Allows exposure to source code as well; a developer can choose to change the source code—it will also be reflected in the visual view
- Freely available at: <http://developers.sun.com/jscreator>

# 12 Reasons to Use Java Studio Creator 2 Software

# Reason 1: One-click Download, Rapid Web Application Visual Development Tool

- Drag and Drop JavaServer™ Faces components, pictures, code clips, AJAX enabled JavaServer Faces components, Database tables, EJB™ methods, Web Services
- Modify component behaviors via Component customizer, properties editors...
- Common component characteristics: Themes
- Extendable Component with pallet manager and component import facilities
- Better design experiences, synchronized among JavaServer Pages™, Design and Java technologies
- Data validation and conversion
- Managed Beans option for each components

# Reason 1 : One-Click Download, Web Application Visual Development Tool—Comprehensive





# DEMO

Rapid Development



## Reason 2: Database Support

- Bundled open source relational database
  - <http://db.apache.org/derby/>
  - Out of box, free, 100% Java and a small footprint (2 MB, compressible to 600k)
  - Embedded browser DB support
    - Support for encrypted data store with strong security features
    - Support for client persistent storage for AJAX application
  - Scrollable/updatable result sets, JDBC row sets
- Database table view, Query Editor
- Drag and drop DB tables to the components for data binding
- Supports other databases

# Database (SQL/Query) Editor

The screenshot shows a database editor interface with three main sections:

- Design View:** Displays two tables:
  - TRIP:** Contains columns TRIPID (primary key), PERSONID, DEPCITY, DESTCITY, and TRIPTYPEID (foreign key).
  - TRIPTYPE:** Contains columns TRIPTYPEID (primary key), NAME, and DESCRIPTION.
- Design Grid:** A table listing columns and their relationships.
 

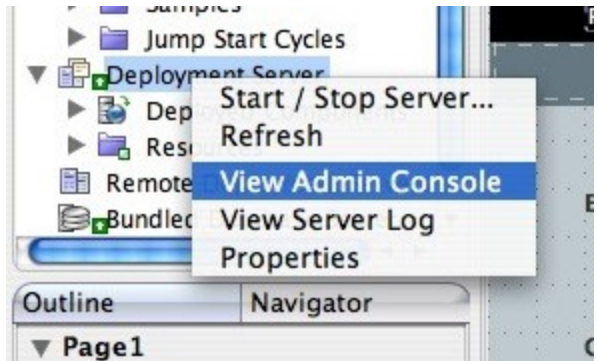
Column	Alias	Table	Output	Sort Type	Sort Order
TRIPID		TRAVEL.TRIP	✓		
PERSONID		TRAVEL.TRIP	✓		
DEPCITY		TRAVEL.TRIP	✓		
DESTCITY		TRAVEL.TRIP	✓		
TRIPTYPEID		TRAVEL.TRIP	✓		
TRIPTYPEID		TRAVEL.TRIPTYPE	☐		
NAME		TRAVEL.TRIPTYPE	✓		
DESCRIPTION		TRAVEL.TRIPTYPE	✓		
- Source Code:** Contains the following SQL query:
 

```
SELECT ALL TRAVEL.TRIP.TRIPID,
           TRAVEL.TRIP.PERSONID,
           TRAVEL.TRIP.DEPCITY,
           TRAVEL.TRIP.DESTCITY,
           TRAVEL.TRIP.TRIPTYPEID,
           TRAVEL.TRIPTYPE.NAME,
           TRAVEL.TRIPTYPE.DESCRPTION
FROM TRAVEL.TRIP
INNER JOIN TRAVEL.TRIPTYPE ON TRAVEL.TRIP.TRIPTYPEID = TRAVEL.TRIPTYPE.TRIPTYPEID |
```

## Reason 3 :Tight Application Servers

- Multiple web/application/portal server support
  - Sun Java System Application Server (bundled)
  - Portal server (JSR-168 compliant servers)
  - Tomcat Web Server
- Easy remote deployment
- Deploy Web applications on other Application Servers
- Remote administration

# Reason 3 : Application Server Console



# Reason 3 : Application Server Console



Sun Java(TM) System Application Server Platform Edition 8.2 Admin Console

http://localhost:25848/admingui/TopFrameset

HOME VERSION UPGRADE REGISTRATION LOGOUT HELP

User: admin Server: localhost Domain: creator

## Sun Java™ System Application Server Admin Console

Sun™ Microsystems, Inc.

### Common Tasks

#### Application Server

- Applications
  - Enterprise Applications
  - Web Applications
  - EJB Modules
  - Connector Modules
  - Lifecycle Modules
  - App Client Modules
- Resources
  - JDBC
  - Persistence Managers
  - JMS Resources
  - JavaMail Sessions
  - JNDI
  - Connectors
- Configuration

## Welcome to the Sun Java™ System Application Server

### Common Tasks

- Search Log Files**  
Search the log files of your application server instances.
- Deploy Enterprise Application (.ear)**  
An enterprise application is packaged in an EAR file, a type of archive file that contains any type of J2EE standalone modules, such as WAR and EJB JAR files.
- Deploy Web Application (.war)**  
A Web application is packaged in a WAR file, a type of archive file that contains components such as servlets and JSP pages.
- Create New JDBC Connection Pool**  
A connection pool is used to provide database access to deployed applications.
- View Monitoring Data**  
Monitor various aspects of the application server.

### Documentation

- Quick Start Guide**  
Basic steps for starting the application server, and packaging and deploying applications. It also provides information about the Admin Console and command-line tools.
- Administration Guide**  
How to create server instances and clusters, how to configure them, and how to deploy applications to them.
- Developers Guide**  
How to configure your applications for deployment.

# Reason 3 : Application Server Console

Sun Java(TM) System Application Server Platform Edition 8.2 Admin Console

http://localhost:25848/adingui/TopFrameset

Amazon .Mac Yahoo! Apple Sales eBay simpsons blogbeebe: ...2 Impresses The Cube Ow... Cube FAQ! Tor Norbye's Weblog

Sun Java(TM) System Appli...

HOME VERSION UPGRADE REGISTRATION LOGOUT HELP

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## Sun Java™ System Application Server Admin Console

Sun™ Microsystems, Inc.

**Common Tasks**

Application Server

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  - App Client Modules
- Resources
  - JDBC
    - JDBC Resources
    - Connection Pools
  - Persistence Managers
  - JMS Resources
  - JavaMail Sessions
  - JNDI
  - Connectors
- Configuration

**General Information**

Stop Instance View Log Files Rotate Log File JNDI Browsing Recover Transactions...

Host Name: localhost

HTTP Port(s): 29080, 22043, 25848

IIOP Port(s): 24700, 22060, 22061

Configuration Directory: /Applications/Creator2\_1/SunAppServer8/domains/creator/config

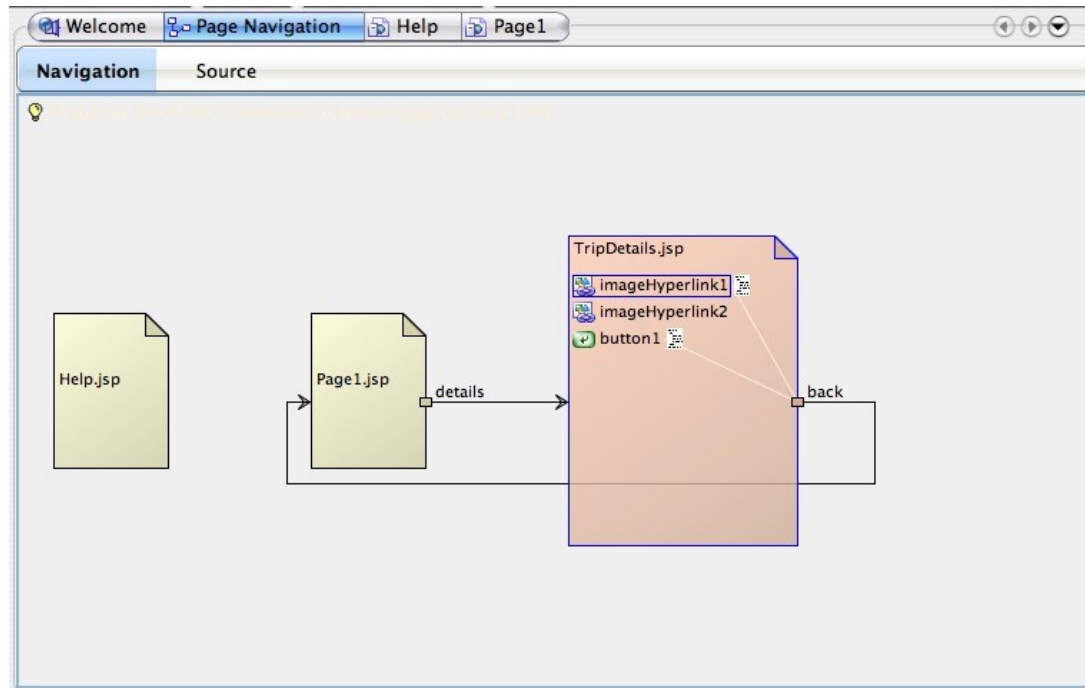
Installed Version: Sun Java System Application Server Platform Edition 8.2 (build b06-fcs)

Debug: Not Enabled



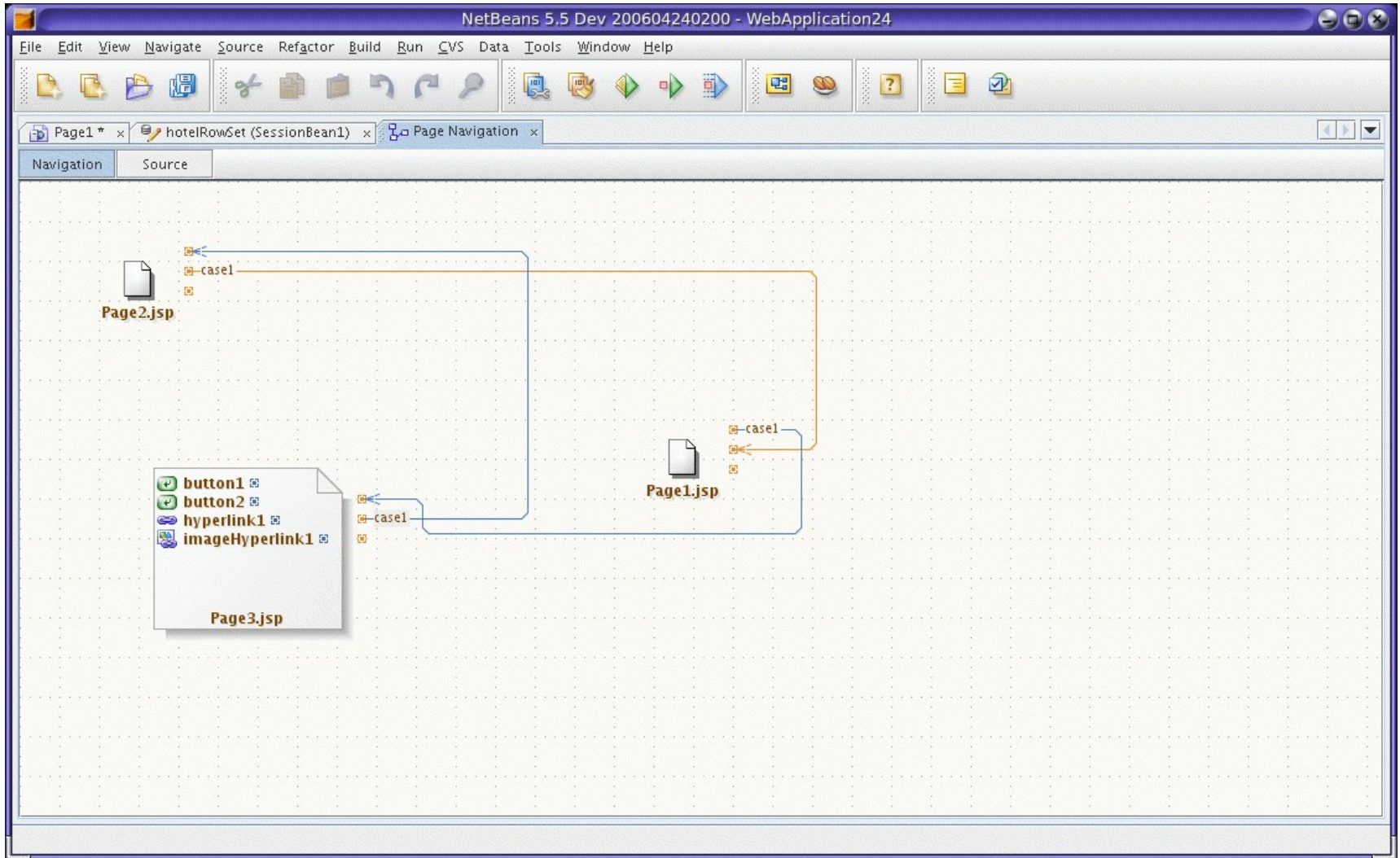
# Reason 4 : Navigator Experience

- Navigator provides a way to provide a high-level view of the overall development in-progress and connect component to control flow of execution



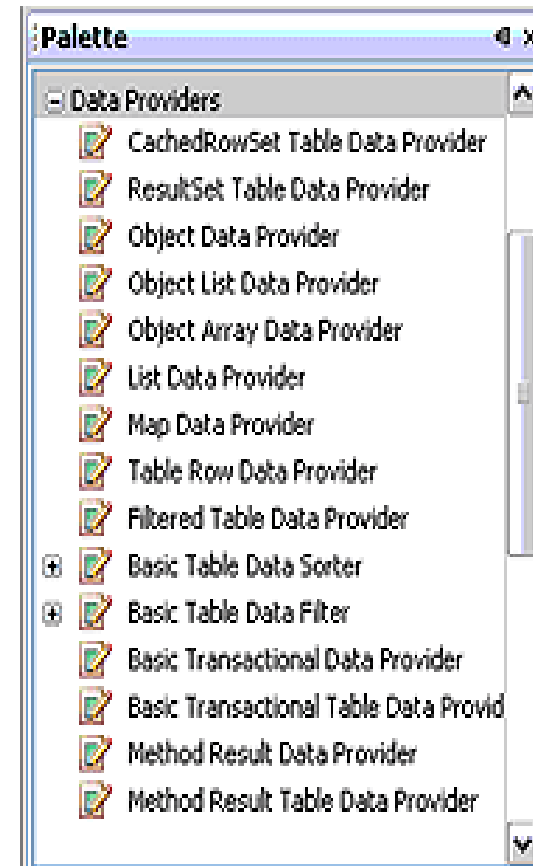


# New Flow Designer



# Reason 5: Drag and Drop Component Data Binding with Data Source

- **Data Provider** APIs enables to bind components to access arbitrary data sources (Database, Web services, EJB business methods, Hibernate, Spring framework...)
- **DataProvider** class can access to an individual data object made up of **fields**:
  - JavaBeans™ specification (field == property)
  - Map (field == key)
  - Row in a RowSet (field == column)



# Drag and Drop Component Data Tables Binding with Data Source

The screenshot shows an IDE interface with several panels. The **Palette** panel on the left contains a **Table** component. The **Servers** panel shows a tree structure with **PERSON** under **Tables**. The **Outline** panel shows a project structure with **personDataProvider** and **personRowSet**. The **Design** view on the right shows a **Table (5)** with the following data:

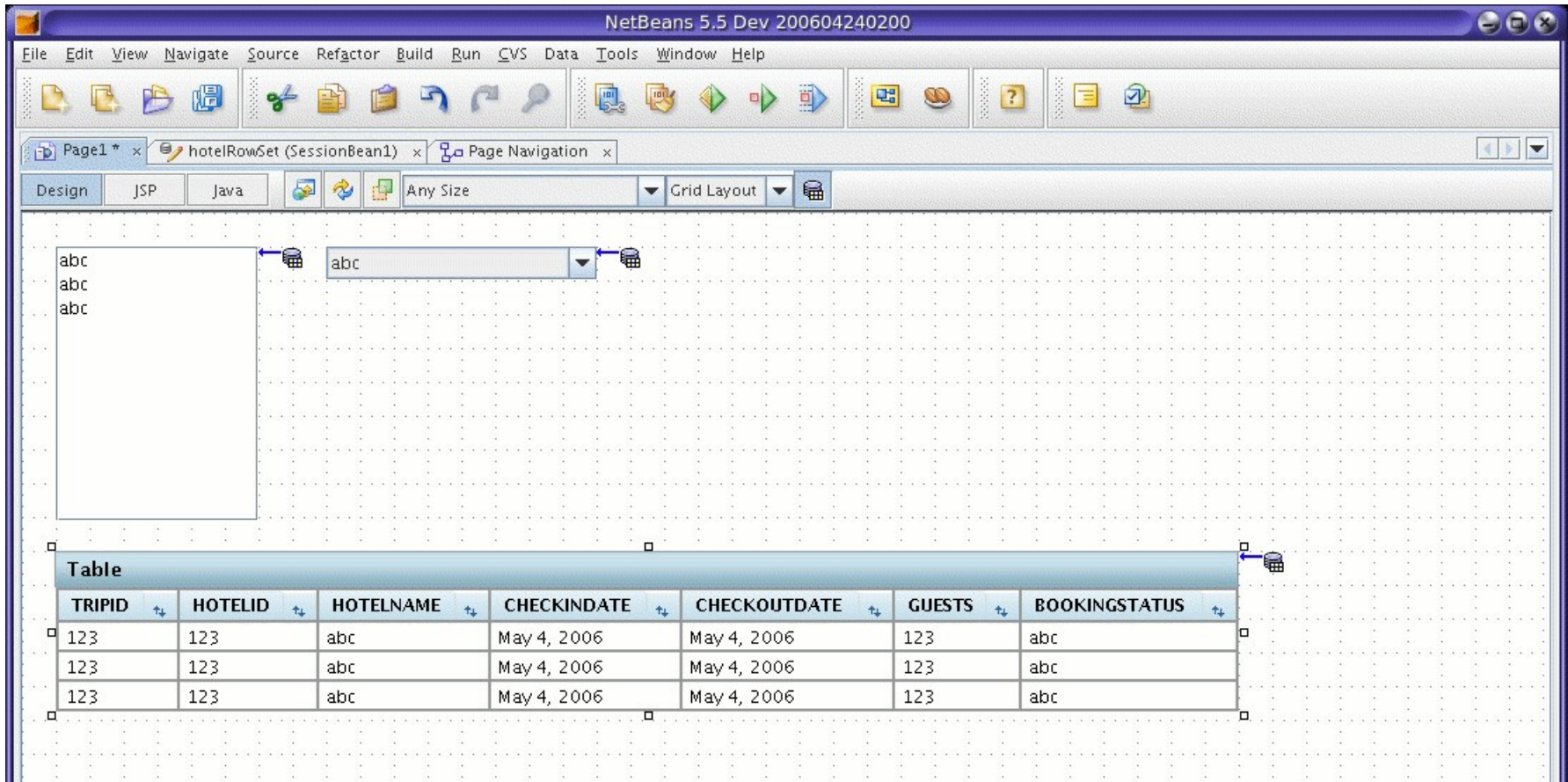
PERSONID	NAME	JOBTITLE	FREQUENTFLYER
123	abc	abc	<input checked="" type="checkbox"/>
123	abc	abc	<input checked="" type="checkbox"/>
123	abc	abc	<input checked="" type="checkbox"/>

Blue arrows indicate the following connections:

- From the **Table** component in the Palette to the **Table (5)** in the Design view.
- From the **PERSON** table in the Servers palette to the **table1** component in the Outline view.
- From the **personDataProvider** component in the Outline view to the **table1** component in the Outline view.
- From the **personRowSet** component in the Outline view to the **table1** component in the Outline view.

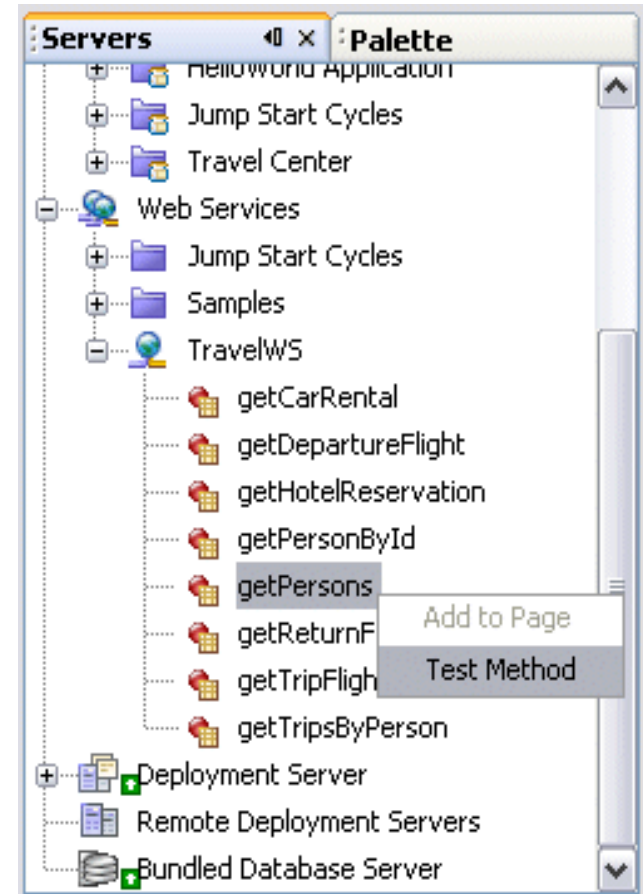


# Component Decorations with Data Binding



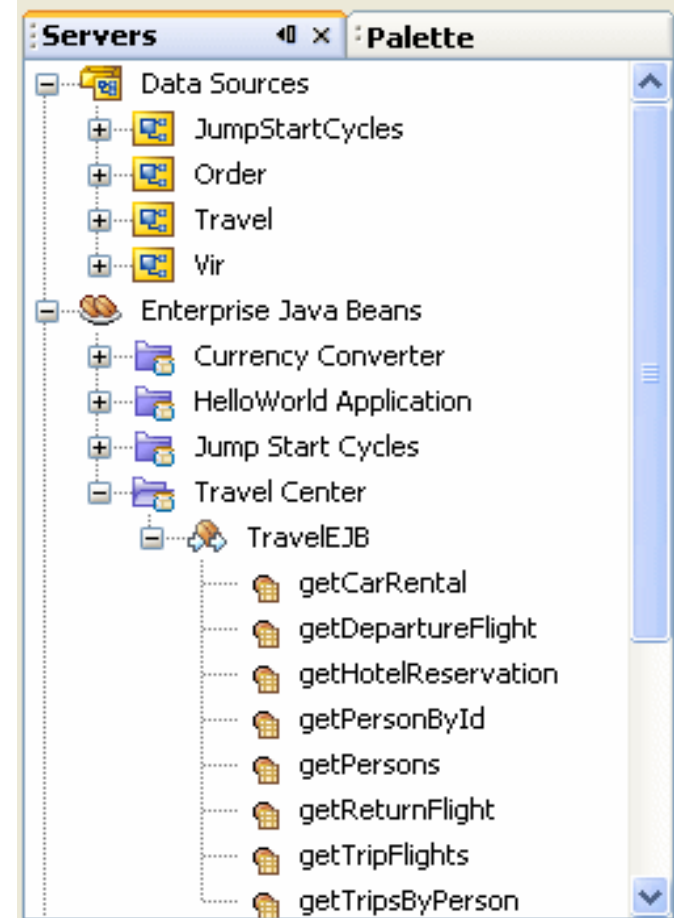
# Reason 6: Consuming Web Services

- Add a web service to **servers** window
  - Simply locate and designate a WSDL file
  - Then test the web service
- Drag and drop the web service to a component
- Use the dialog **bind to data** to further bind particular data elements to a particular component



# Reason 7: Consuming Server-Side Business Components

- Consume Enterprise JavaBeans™ specifications
- Drag and drop the EJB specification to a component; action binds the EJB to the component
- Use the dialog bind to data to further bind particular data elements to a particular component

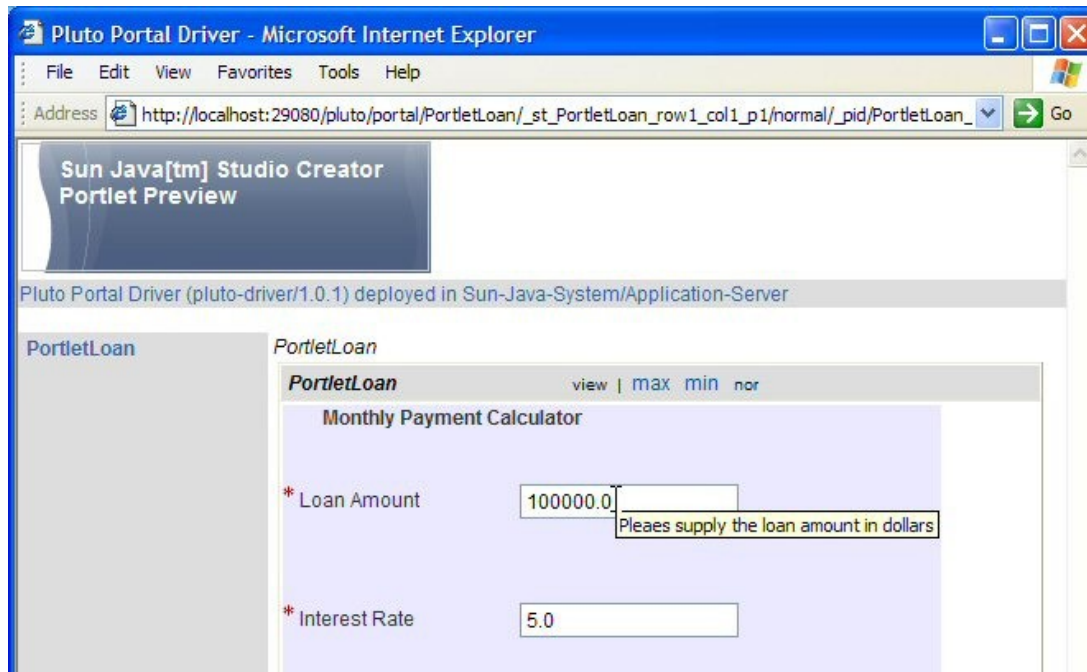


# DEMO

## Data Binding

# Reason 8: JSF Portlets

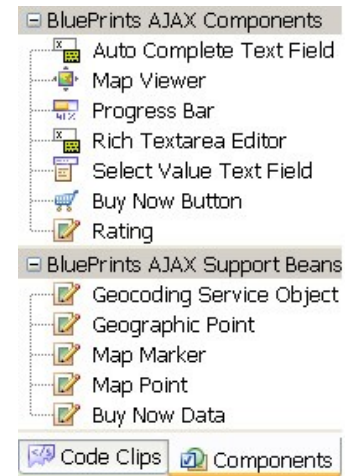
- JSR-168 compliant JavaServer Faces portlet application to provide content for a portal
- Project type





# Reason 9: AJAX-Enabled JavaServer Faces Components from Update Center

- Blueprints AJAX Components
  - Auto Complete Text Field, Map Viewer, Progress Bar, Rich Text area Editor, Select Value Text Field, Buy Now Button, Rating
- Blueprints AJAX Support Beans (non-visual)
  - Geocoding Service Object, Geographic Points, Map Maker, Map Point, Buy Now Data



# Benefit of AJAX with JavaServer Faces Component

- Using Creator tool
  - Control Content Rendering
  - Control of Server Side Logic
  - Hide complexity of JavaScript™ technology from developers of Java based applications using JavaScript libraries
  - Reusable
  - Edit CSS
  - Hide AJAX complexity from developers of JavaServer Pages-based pages

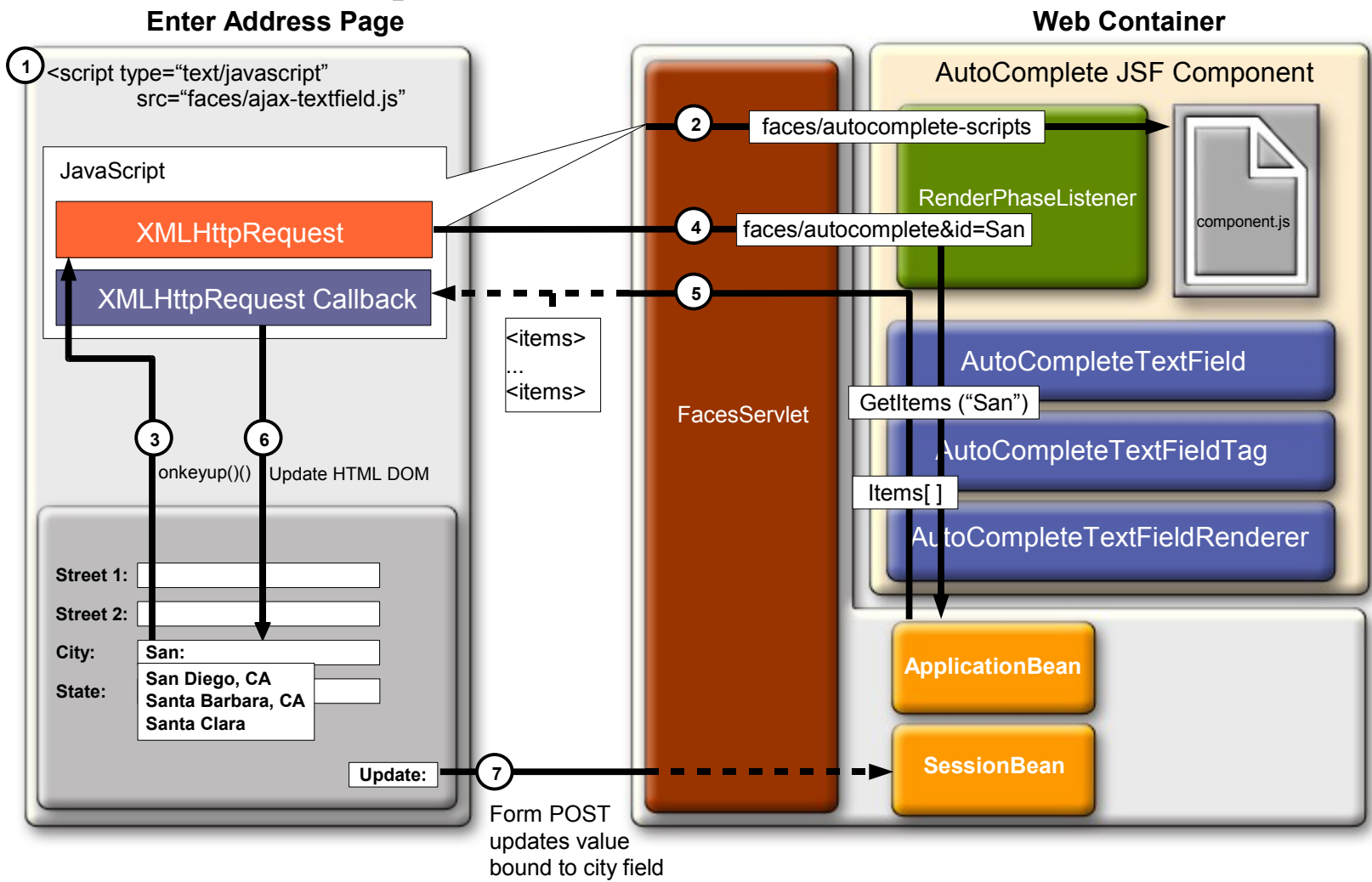
# AJAX with JavaServer Faces

- AJAX using the JavaServer Faces architecture to process AJAX requests
- Servlet Controller to process AJAX requests
- Retrofitting existing applications

# JavaServer Faces Component That Renders Client-Side AJAX Script and Processes AJAX Requests

- AJAX is built into the lifecycle
- Everything is handled by the JavaServer Faces environment
- JavaServer Faces environment with a phase listener used to return initial JavaScript technology
- JavaServer Faces environment with a phase listener processes AJAX requests
- View state from a page may also be accessed

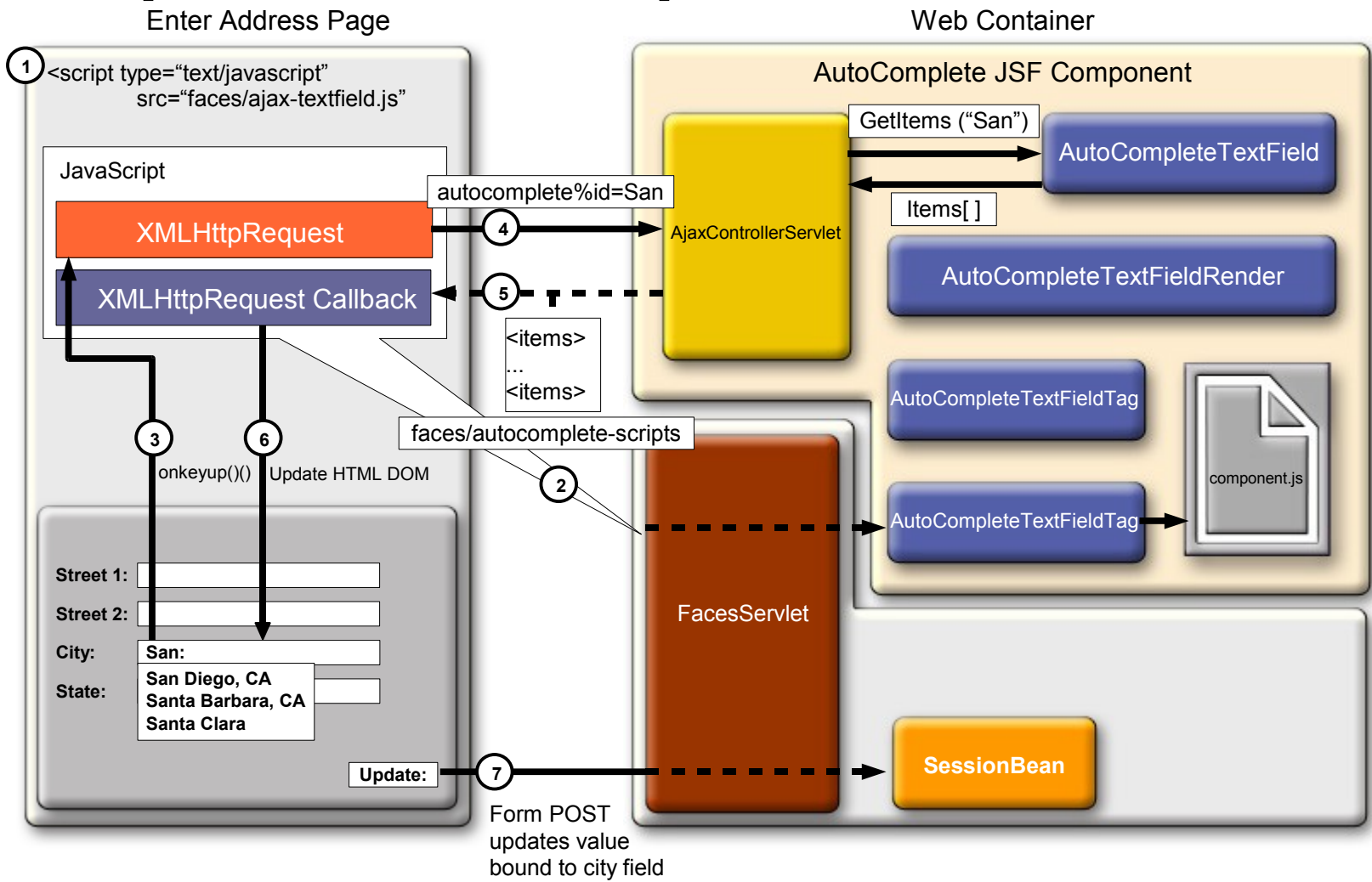
# AJAX Processing with a JavaServer Faces Component



# JavaServer Faces Component That Uses Separate Servlet

- Avoids JavaServer Faces lifecycle
  - Performance
  - Risk
- More difficult deployment
- Beware of JavaServer Faces technology interactions
- JavaServer Faces technology life-cycle events are not incurred

# Architecture of a JavaServer Faces Component with Separate AJAX Controller

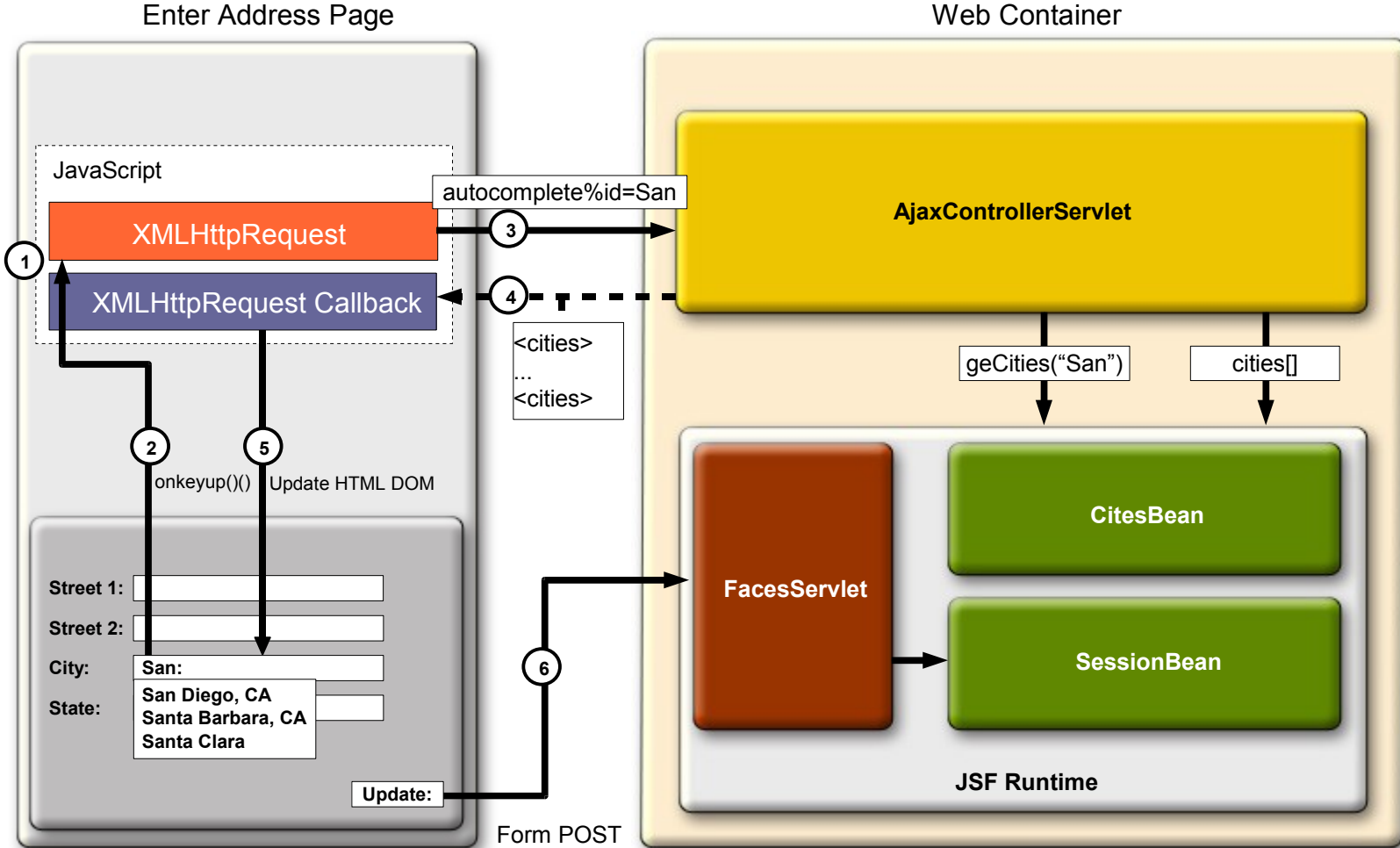


# Retrofitting Existing Applications

- Customizable but not easily re-usable
- Capable of evaluating expressions and using managed beans
- Mapping JavaServer Faces based IDs to HTML IDs
- JavaServer Faces technology life-cycle events are not incurred
- May be used outside of a JavaServer Faces platform interface runtime



# AjaxServlet + JavaServer Faces Components



# DEMO

## AJAX-Enabled JavaServer Faces Components

## Reason 10: Virtual Form

- Enable you to limit the input fields procession for validation on a page
- An input component can participate in multiple virtual forms, but a submission component can submit at most one virtual form

# Virtual Form

Product  
Quantity  
Requested Date  
Update Order

Ship To:  
Street  
City  
State  
Zip Code  
Update Shipping

Configure Virtual Forms

street

These components participate in and submit virtual forms as follows:

Color	Name	Participate	Submit	
■	OrderInfo	No	No	New
■	ShippingInfo	No	No	Delete
		Yes		
		No		

OK Cancel Apply

Toggle to show or hide virtual forms

Design JSP Java Any Size

Product  
Quantity  
Requested Date  
Update Order

Ship To:  
Street  
City  
State  
Zip Code  
Update Shipping

Virtual Form Legend  
■ OrderInfo  
■ ShippingInfo

# Reason 11: Theme Support

- Theme defined as Coordinated set of CSS stylesheets, JavaScript files, and icon images in a single .jar file
- Default theme is included, and couple of more themes created
- Theme can be selected during design time, and test inside design
- Theme is one of common component characteristics, components are theme sensitive

# Reason 12: NetBeans™ Software Support

- NetBeans technology is the foundation
  - Plugin Ecosystem
  - Update Center
- NetBeans and Java Studio Creator technologies are synergistic and compatible
- NetBeans technology offers the other side of the server-side fence which allows you to:
  - Build Enterprise Java Beans specifications
  - Build Web Services
  - Offers complete Java EE, Java ME and Java SE support
    - For example, you can build an applet for you web app

# Reason 13: Many More Reasons

- Debugger
- HTTP monitor
- Converters and validators
- Query editor
- Blueprint samples
- Version control system integration
- Refactoring
- Localization support
- Easy to add styles to the components

# Summary

- Creator is a visual development tool to build web applications with JSF technology
- You can use AJAX-enabled JSF components with the Creator tool to build Web 2.0 Applications



# Resources



- Great Learning Tutorials can be found: <http://developers.sun.com/prodtech/javatools/jscreator/learning>
- Find Java Studio Creator online and the revised field guide: <http://developers.sun.com/jscreator>
- Visit our Creator Engineering Team Face-to-Face: Booth: # 716
- Join the Sun Developer Network and get a “Backstage Pass” for tonight’s party at Jillian’s: Booth # 747

# Resources

- AJAX at Sun developers:
  - <http://developers.sun.com/ajax/>
- Developer Support Services:
  - <http://developers.sun.com/services/>
- Creator Training at Sun:
  - <http://www.sun.com/training/>
  - <http://developers.sun.com/prodtech/javatools/jscreator/learning/training/index.html>

# Related 2005 JavaOne<sup>SM</sup> Conference Hands-On Labs

- Building AJAX-Based Java Server Faces Web Applications With Sun Java Studio Creator (Tuesday, May 16, 5:30 PM)
- Web Services Based Portlet Application Development using Sun Java Studio Creator 2 (Wednesday, May 17, 1:15 PM)

# Related 2005 JavaOne Conference Birds-of-a-Feather (BOF)

- JSR-273: Design-Time API for the JavaBeans Specification (BOF-2994)

# Q&A

<code />



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