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

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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?

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# 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

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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
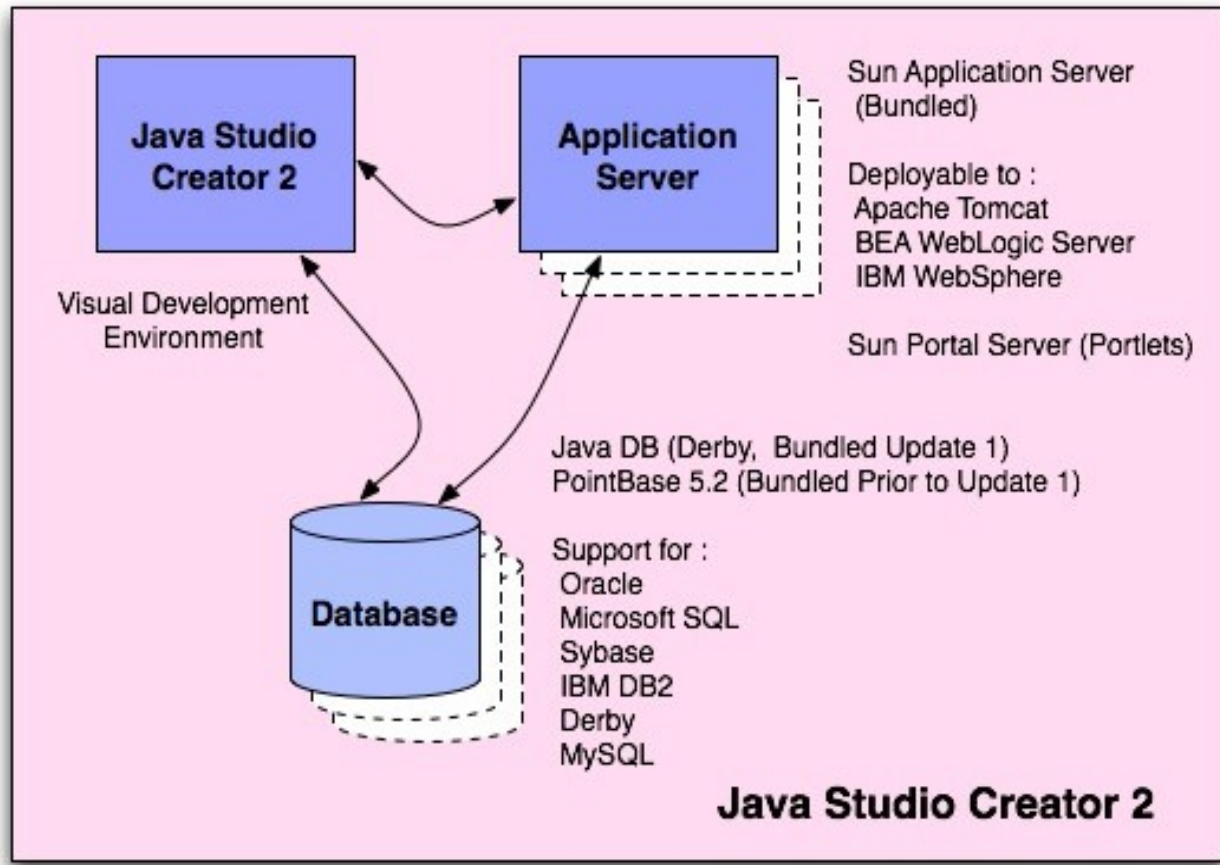
DEMO

Rapid Development

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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

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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

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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

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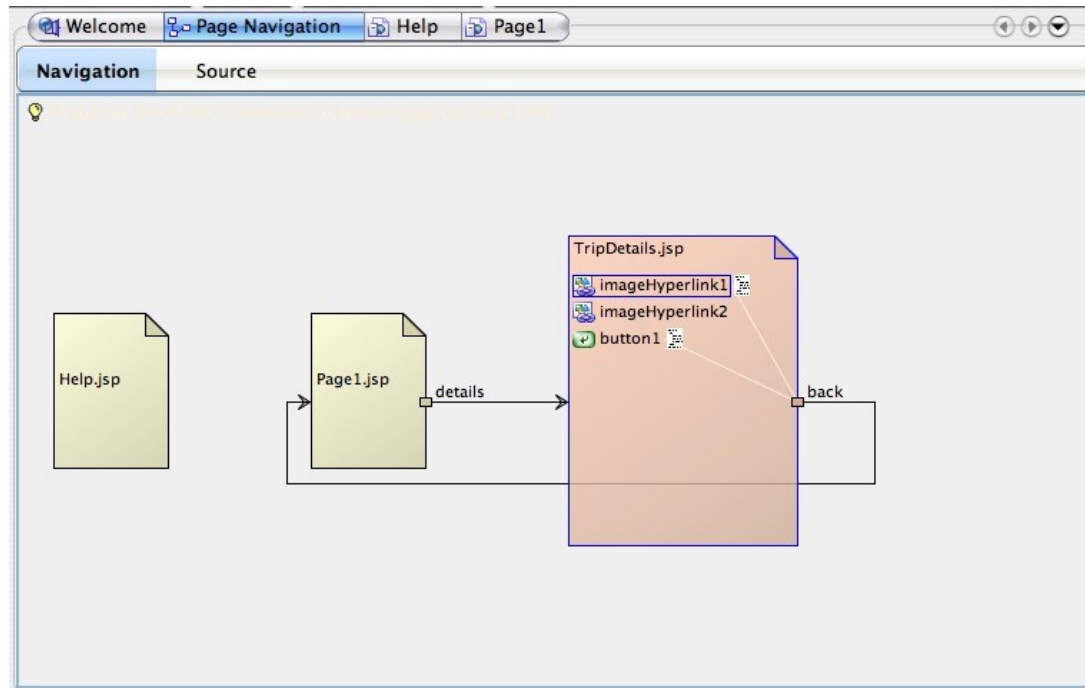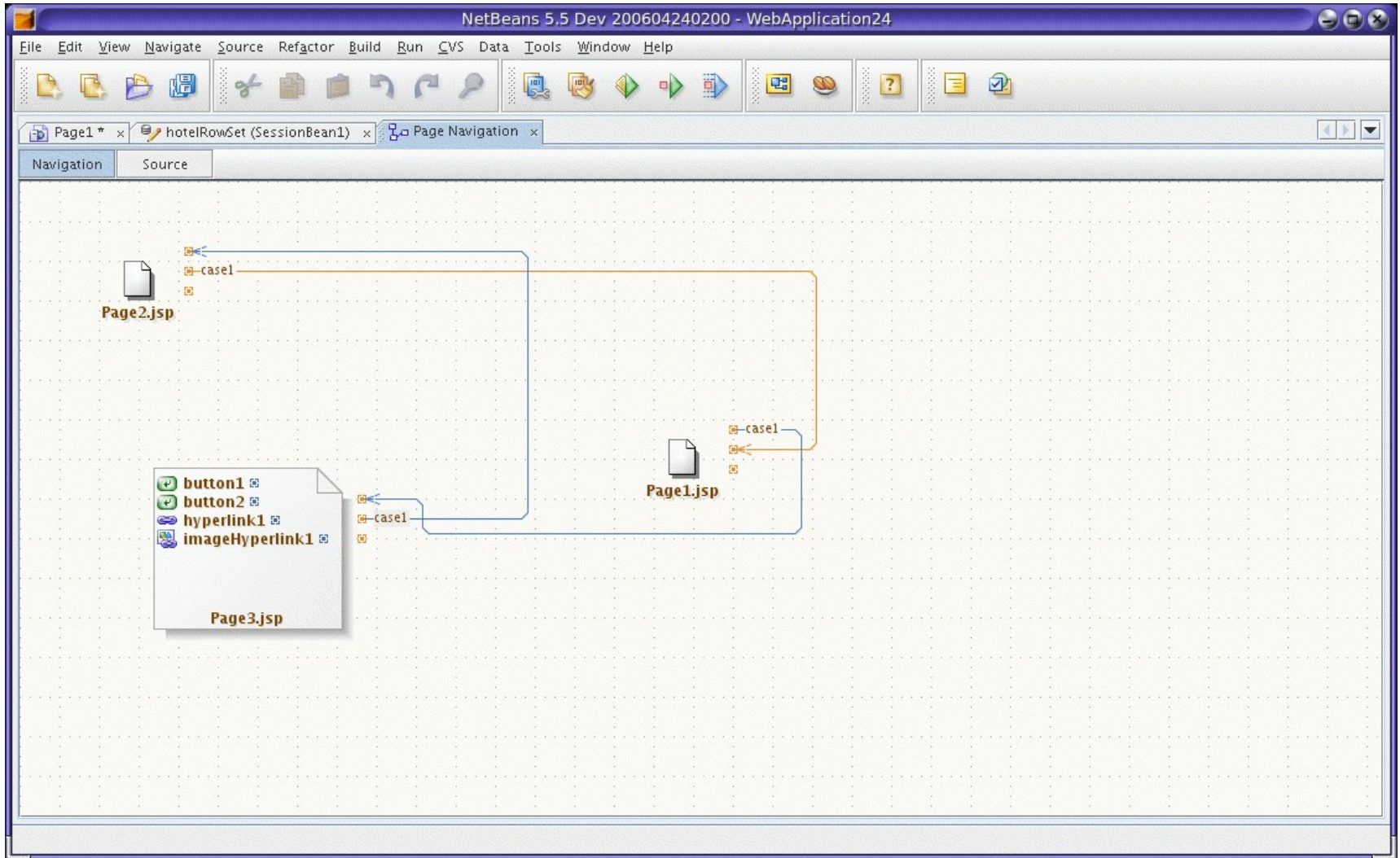
Reason 5: Drag and Drop Component Data Binding with Data Source

- 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)

Palette

- Data Providers
  - CachedRowSet Table Data Provider
  - ResultSet Table Data Provider
  - Object Data Provider
  - Object List Data Provider
  - Object Array Data Provider
  - List Data Provider
  - Map Data Provider
  - Table Row Data Provider
  - Filtered Table Data Provider
  - Basic Table Data Sorter
  - Basic Table Data Filter
  - Basic Transactional Data Provider
  - Basic Transactional Table Data Provid
  - Method Result Data Provider
  - Method Result Table Data Provider

Drag and Drop Component Data Tables Binding with Data Source

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Component Decorations with Data Binding
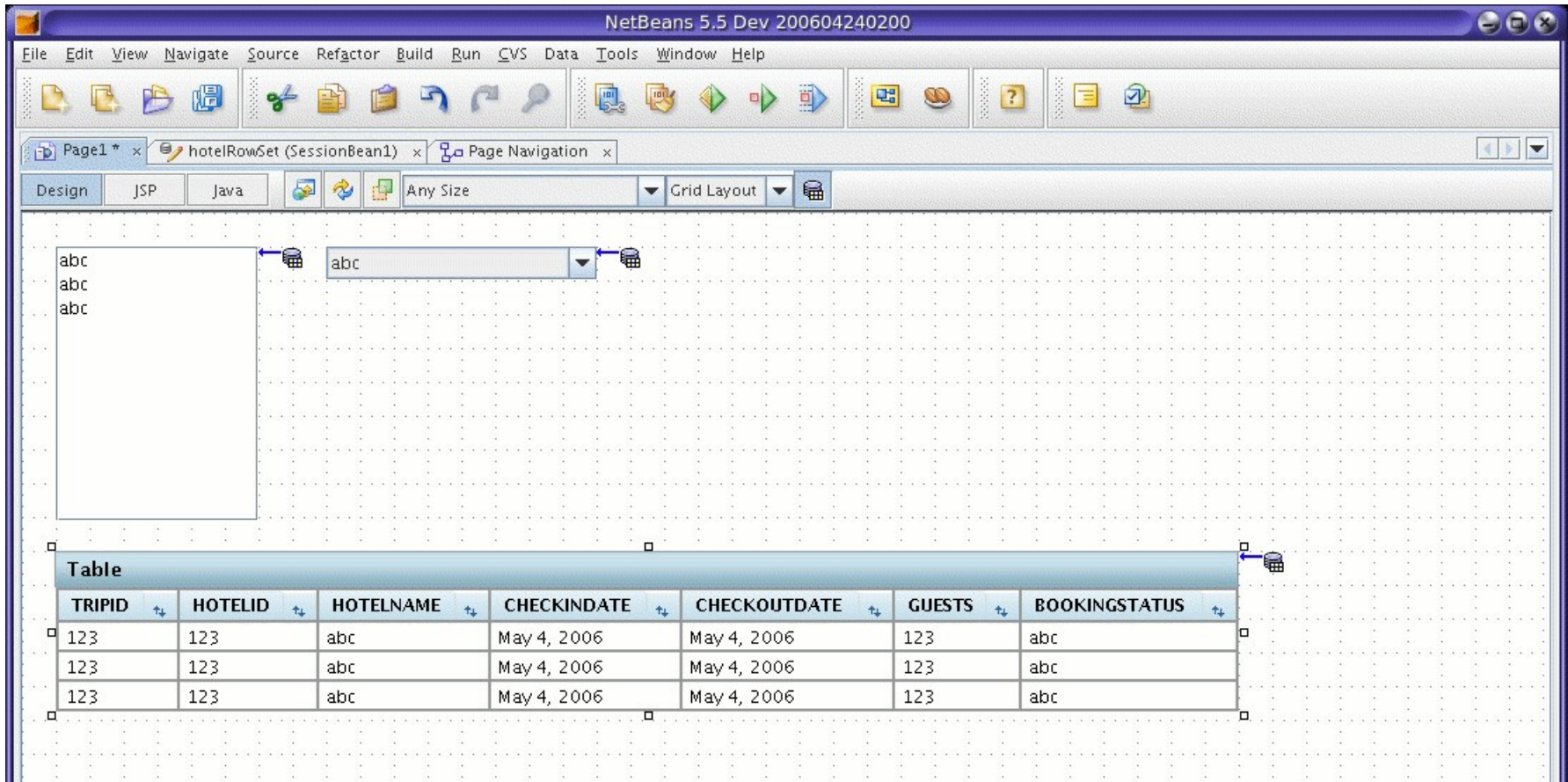
Reason 6: Consuming Web Services

- 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
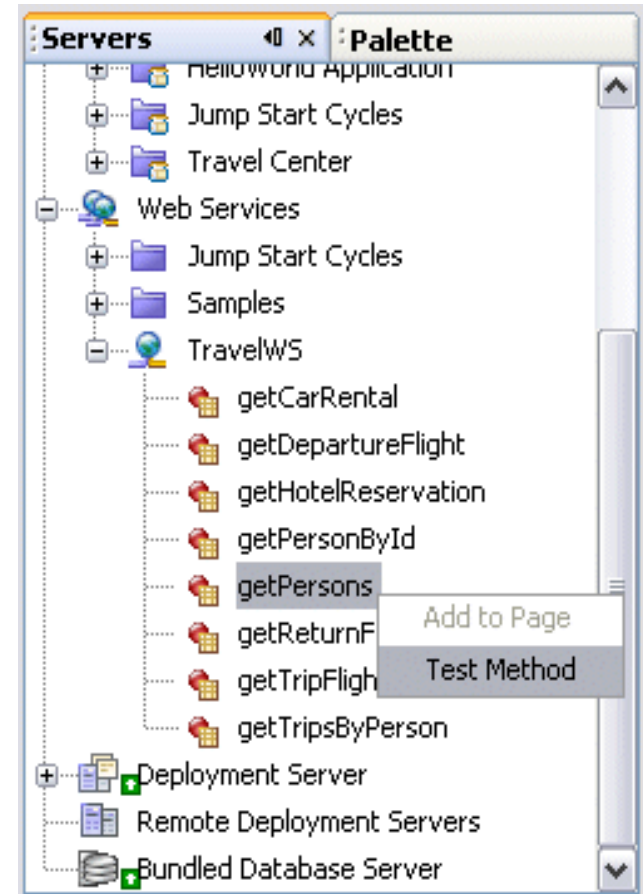
Reason 7: Consuming Server-Side Business Components

- 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
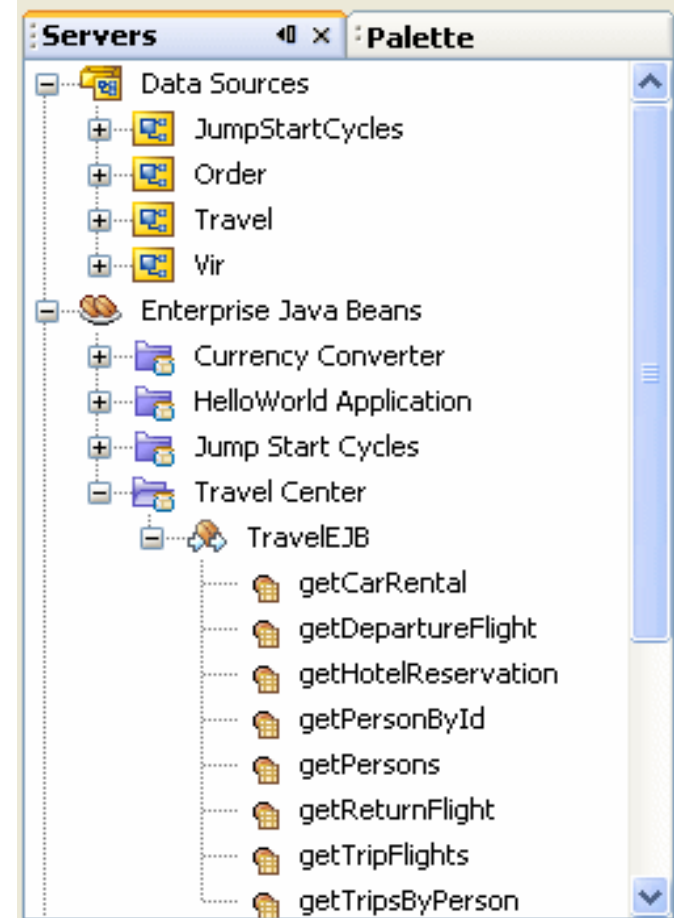
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Data Binding

Reason 8: JSF Portlets

- JSR-168 compliant JavaServer Faces portlet application to provide content for a portal
- Project type
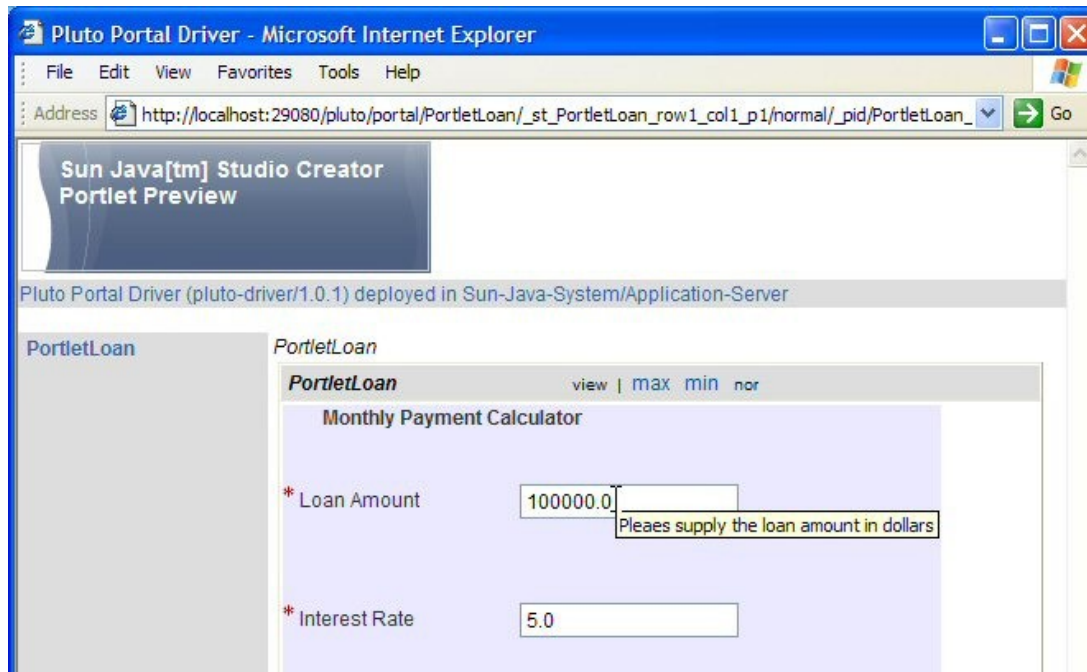
Reason 9: AJAX-Enabled JavaServer Faces Components from Update Center

- ## 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

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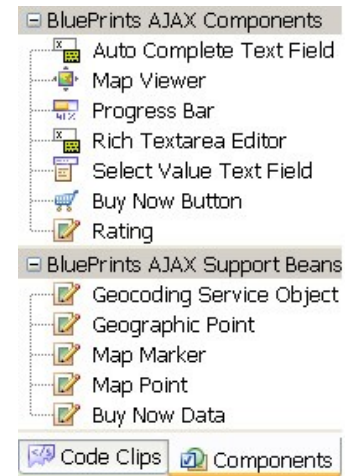
Benefit of AJAX with JavaServer Faces Component

- 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

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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

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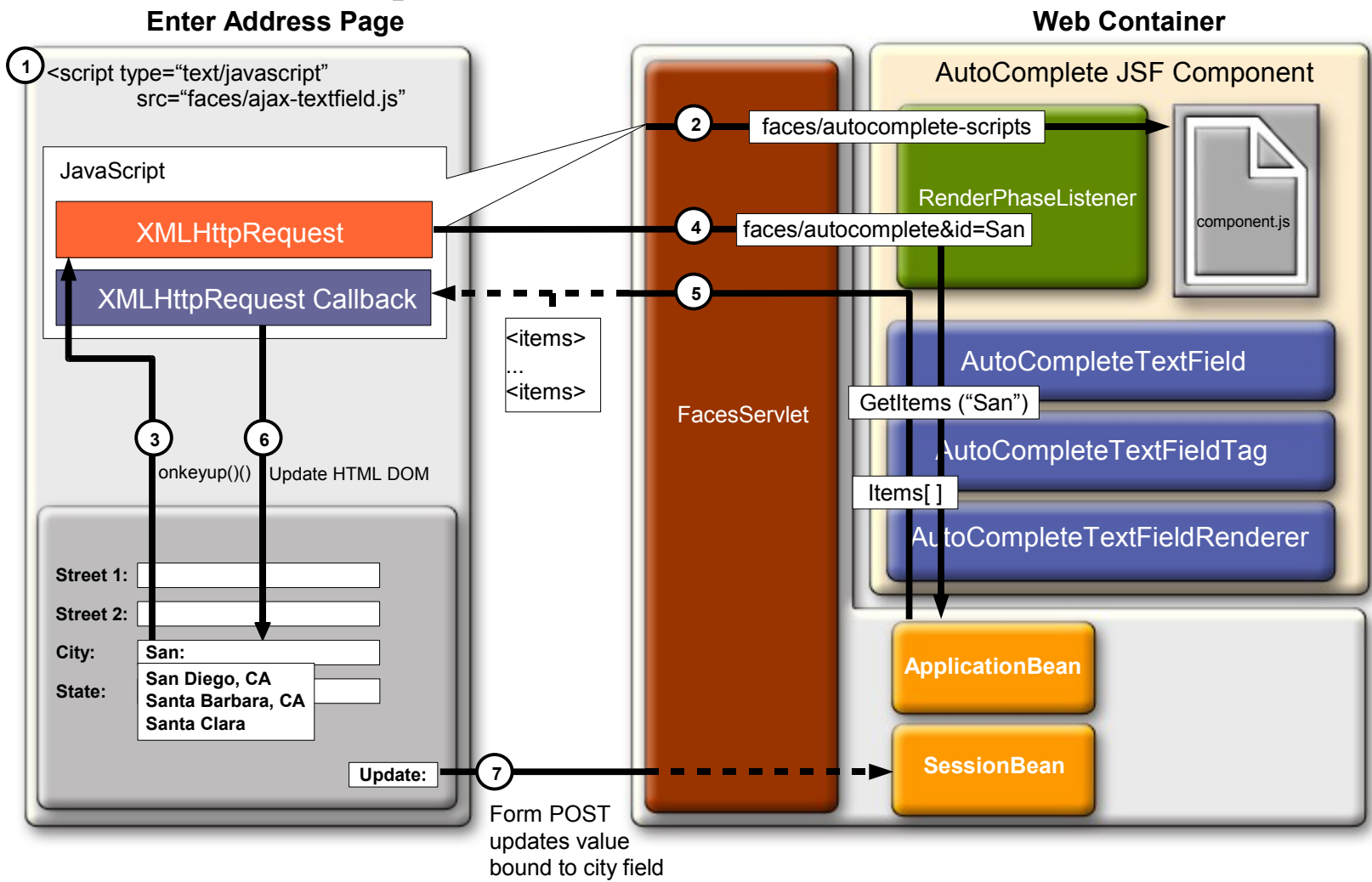
JavaServer Faces Component That Uses Separate Servlet

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

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Architecture of a JavaServer Faces Component with Separate AJAX Controller

Enter Address Page

Web Container

1. `<script type="text/javascript" src="faces/ajax-textfield.js">`

JavaScript

XMLHttpRequest

XMLHttpRequest Callback

AutoComplete JSF Component

GetItems ("San")

AutoCompleteTextField

autocomplete%id=San

4

AjaxControllerServlet

Items[ ]

5

AutoCompleteTextFieldRender

3 onkeyup()()   6 Update HTML DOM

<items>
...
<items>

faces/autocomplete-scripts

2

AutoCompleteTextFieldTag

component.js

AutoCompleteTextFieldTag

Street 1:

Street 2:

City: San:

State: San Diego, CA
Santa Barbara, CA
Santa Clara

FacesServlet

Update: 7   SessionBean

Form POST
updates value
bound to city field

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

Enter Address Page

Web Container

JavaScript

XMLHttpRequest

XMLHttpRequest Callback

1

autocomplete%id=San

3

4

AjaxControllerServlet

<cities>
...
<cities>

geCities("San")

cities[]

2

5

onkeyup()()

Update HTML DOM

Street 1:

Street 2:

City: San:

San Diego, CA
Santa Barbara, CA
Santa Clara

State:

6

Update:

Form POST

FacesServlet

CitesBean

SessionBean

JSF Runtime
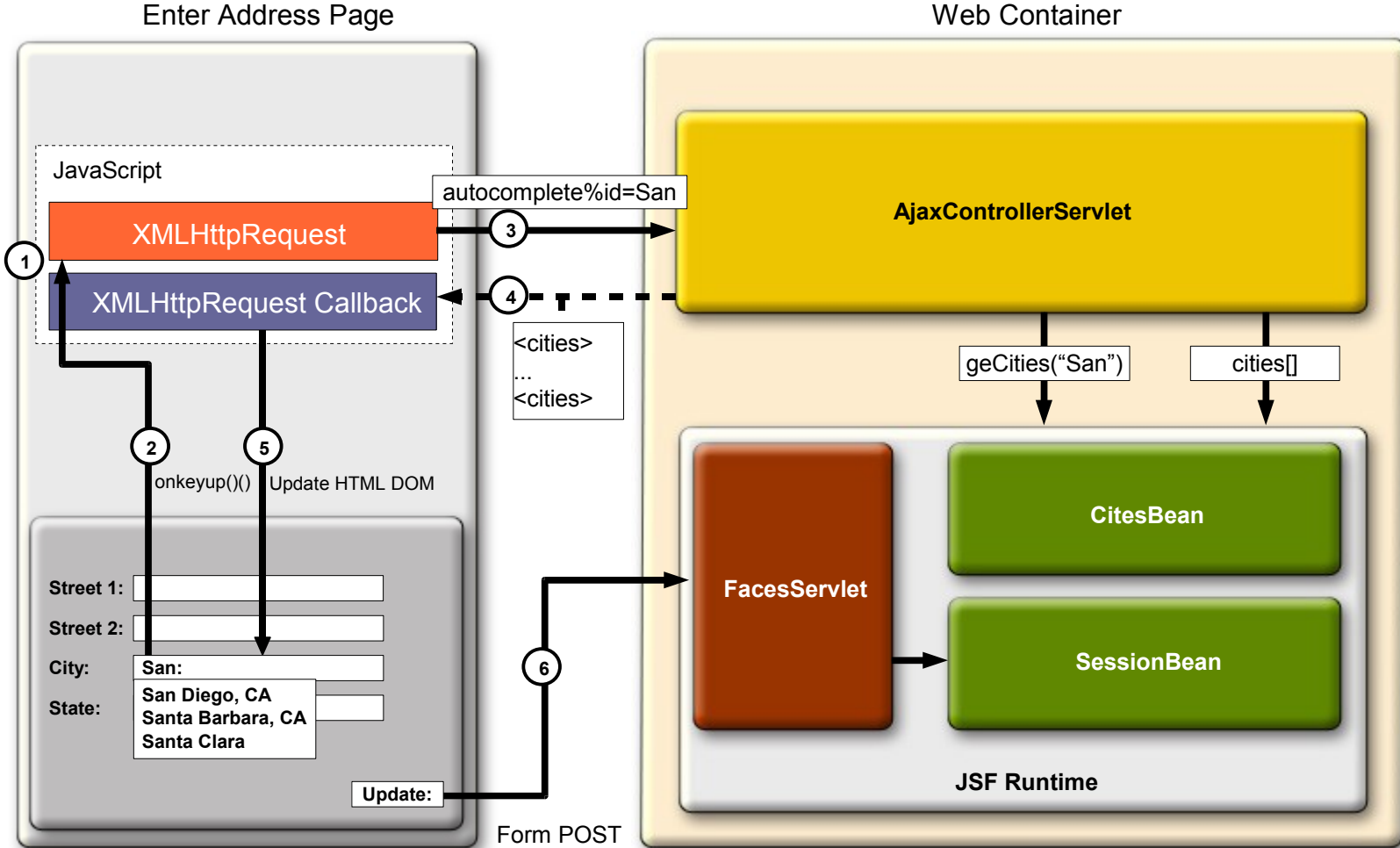
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AJAX-Enabled JavaServer Faces Components

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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

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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

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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^{SM} 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)

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