

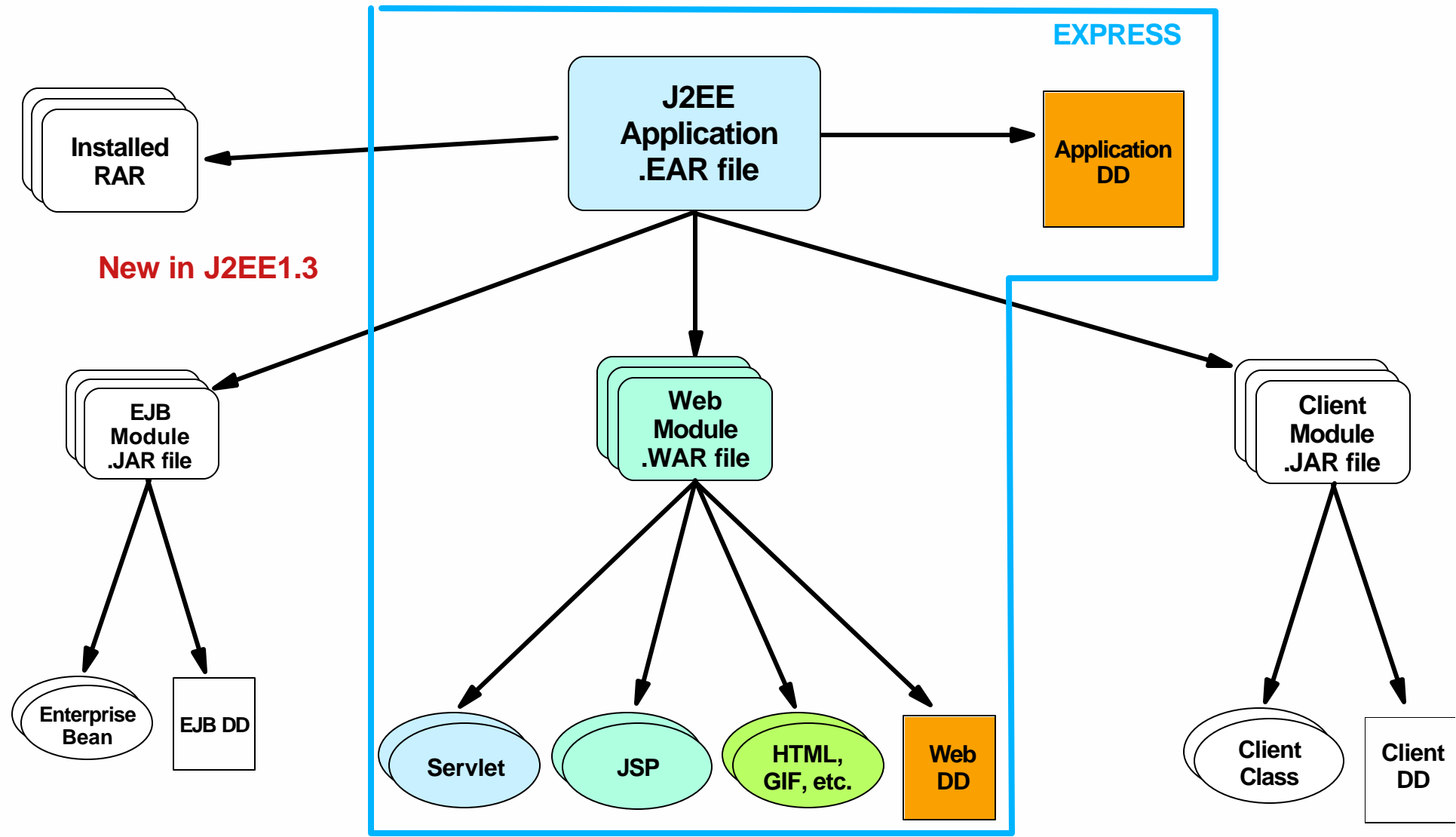
J2EE 1.3 - Introduction

WebSphere Application Server - Express Beta

J2EE 1.3 Topics

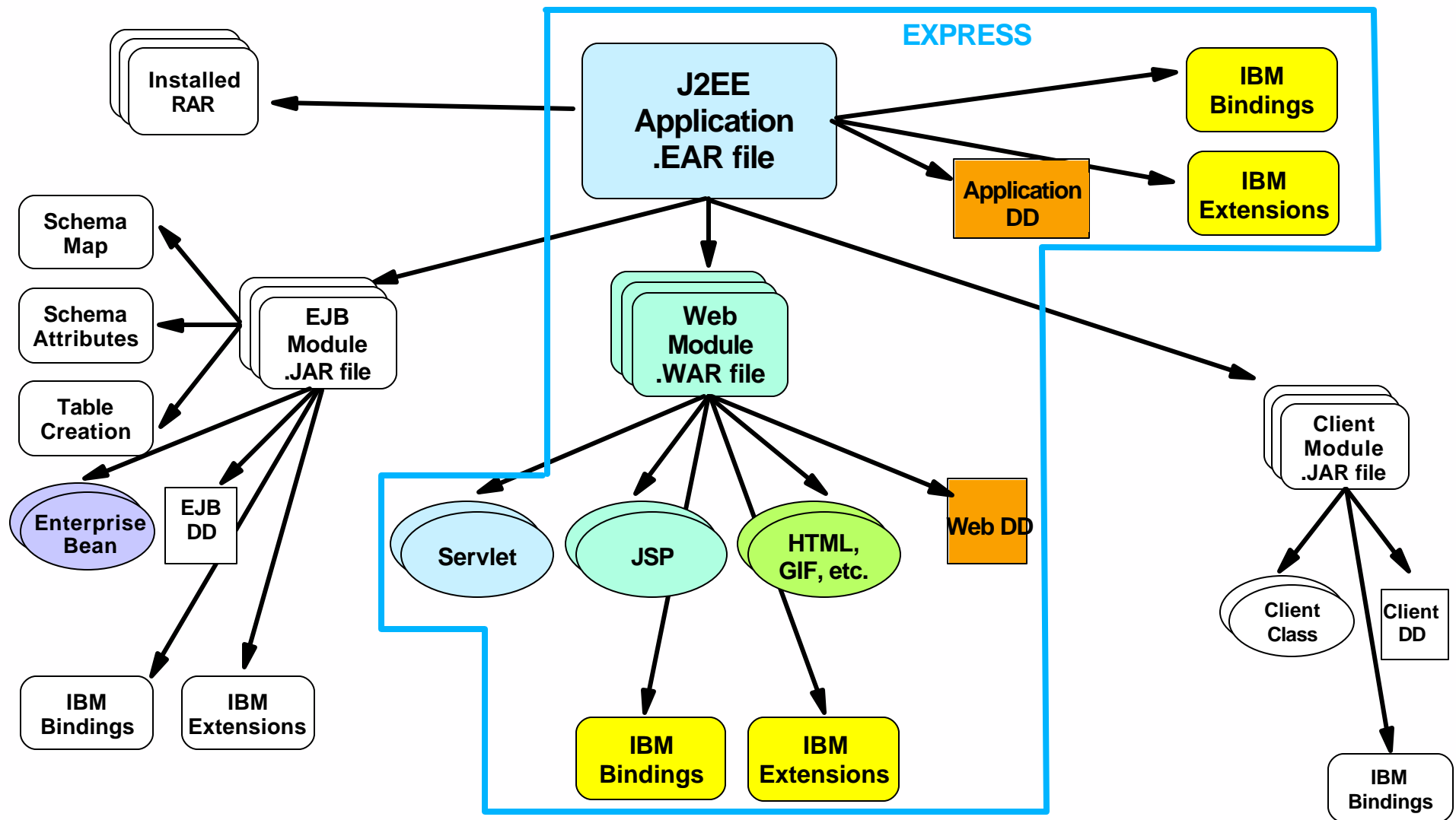
- J2EE 1.3 Packaging
- Discuss changes to Enterprise Application Packaging
- J2EE 1.3 aspects of Web Components
 - ▶ Servlets 2.3
 - ▶ JSP 1.2

J2EE 1.3 Enterprise Application Packaging



DD = Deployment Descriptor

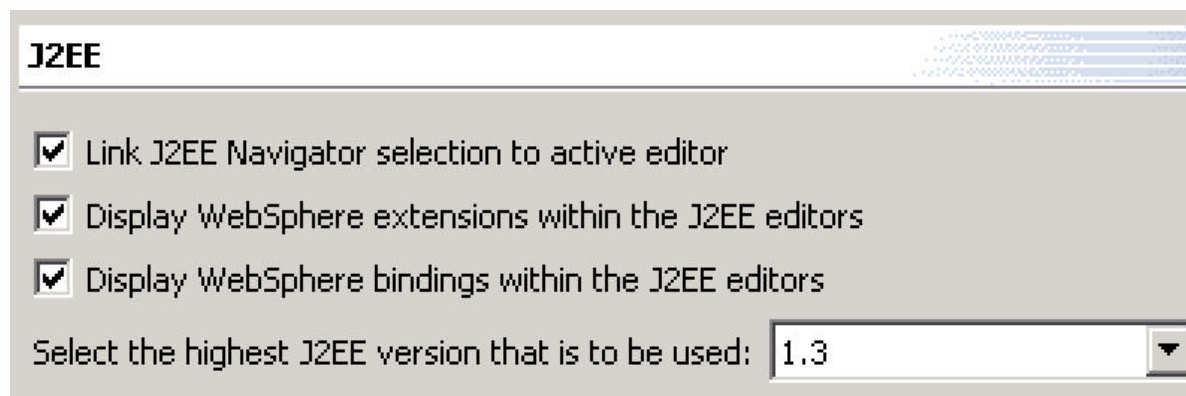
WebSphere J2EE 1.3 Application Packaging



DD = Deployment Descriptor

J2EE Tool General Enhancements

- Full support for J2EE 1.2 and J2EE 1.3
- Visual difference between specification levels
- J2EE Perspective changes
 - ▶ J2EE View replaced with J2EE Hierarchy view
 - ▶ J2EE Navigator view replaces regular Navigator view
 - Improved organization for Web and EJB projects
 - Source files listed by complete packages
 - Web Deployment Descriptor available from Web project root
- Preferences customize J2EE support
 - ▶ Specify J2EE level and display of WebSphere specific items



J2EE Deployment Descriptors Editor

- "Flat look" editors for J2EE Deployment Descriptors and IBM Extension and Binding Deployment Descriptors more intuitive and easier to use
 - ▶ IBM Extension and Bindings shown/hidden with Preference setting

The screenshot shows the 'Web Deployment Descriptor' editor window for 'MyBankMDBWeb'. The window has a title bar with a close button. The main content area is divided into three sections: 'General Information', 'Usage', and 'Listeners'. The 'General Information' section contains fields for 'Display name' (MyBankWeb), 'Description' (MyBank Web Module), and 'Session time out' (empty). There is a checkbox for 'Distributable' which is unchecked. The 'Usage' section shows a list of Enterprise Applications using this web module, with 'MyBankMDB' (version 1.3) listed. A 'Refresh' button is next to it. The 'Listeners' section shows a list of listeners used in this application, with 'CreateAccount' and 'TransferFunds' listed. A 'Details' button is next to the list. The 'Servlets and JSPs' section is partially visible at the bottom, showing a list of servlets and JSPs used in this application, with 'CreateAccount' and 'TransferFunds' listed. A 'Details' button is next to the list.

Web Deployment Descriptor X

MyBankMDBWeb

▼ General Information

Display name:


Description:


Session time out:

☐ Distributable

▼ Servlets and JSPs


The following servlets and JSPs are used in this application:

 [CreateAccount](#)

 [TransferFunds](#)

▼ Usage

The following Enterprise Applications use this web module:

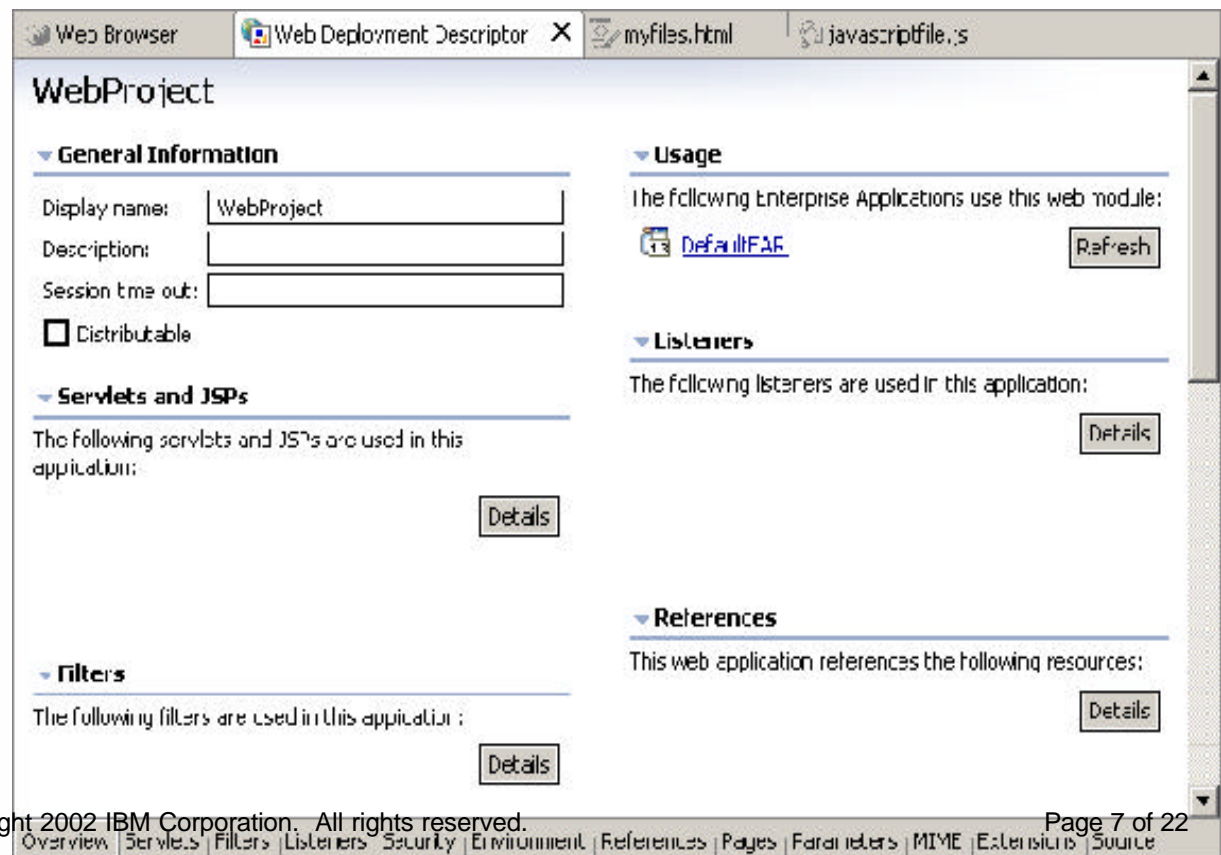
 [MyBankMDB](#)

▼ Listeners

The following listeners are used in this application:

Web Deployment Descriptor Editor

- Allows updating the web.xml deployment descriptor
- Additionally, allows updating the bindings and extensions
 - ▶ "Flat look", one editor allows updating both the standard deployment descriptor and the proprietary information
- Improved usability
 - ▶ Overview page
 - ▶ Improved table cell editors
 - ▶ Split screen scrolling



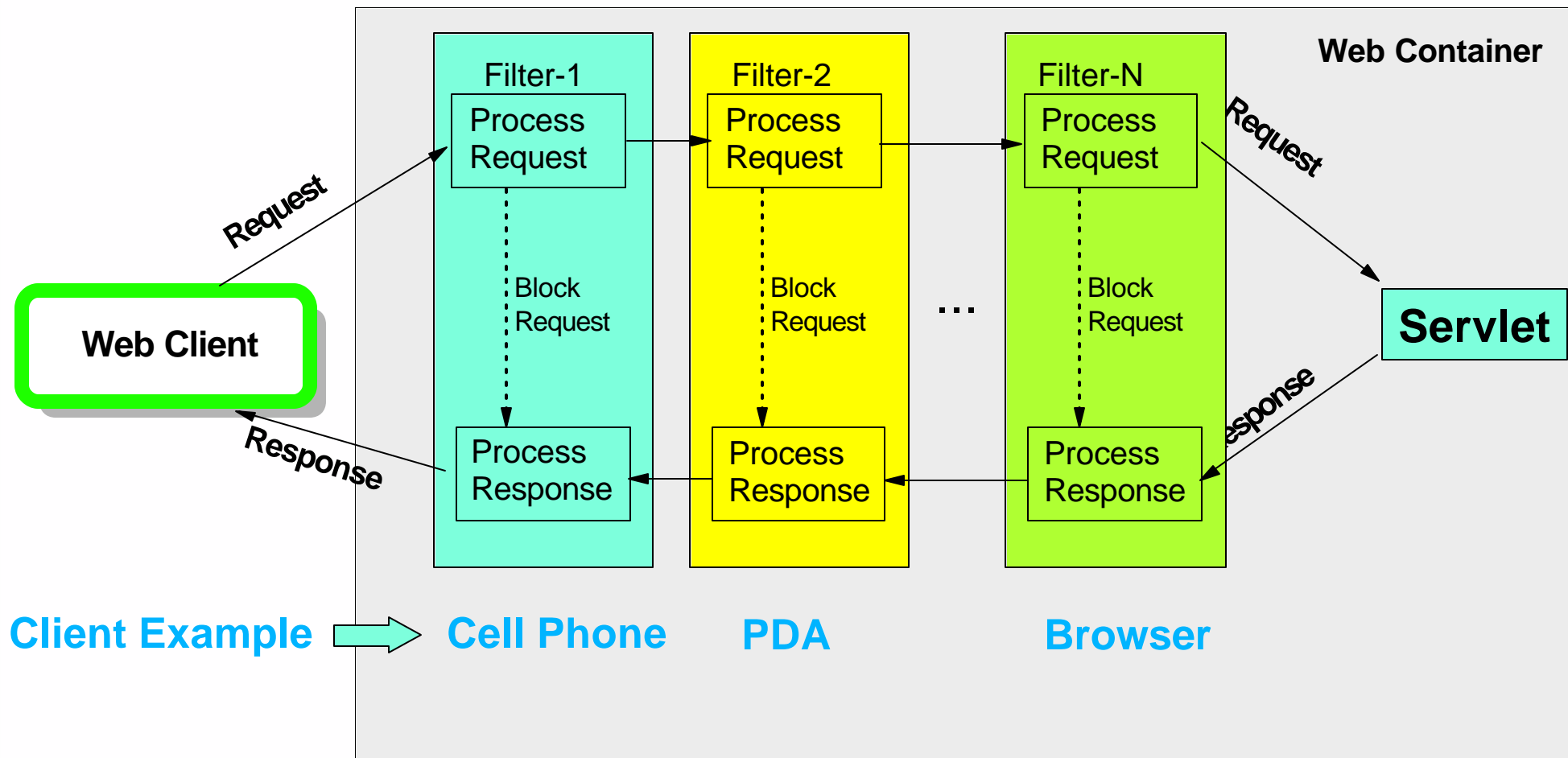
Section

Servlet 2.3

Servlet 2.3: What's New

- Servlet Filtering
- Application Lifecycle Listeners and Events
- Enhanced Internationalization Support
- API changes

Servlet 2.3: Filter Mechanism Example



Filter can do the following

- Modify the request or response
- Block the request and send the response directly
- Modify the response

Servlet 2.3: Filters

- Allows developer to:
 - ▶ Intercept a request before it reaches a Servlet
 - ▶ Modify the response after the Servlet has processed the request and before the client receives the response
 - ▶ Send the response directly without sending to the next filter or the Servlet
- Downside
 - ▶ If any filters fail, the request is not completed
- When to use filters:
 - Authentication, logging and auditing, encryption
 - Image conversion, data compression, tokenizing filters
 - Filters that trigger resource access events
 - XSL/T filters that transform XML content
 - MIME-type chain filters
 - Caching filters
 -
- Advantage
 - ▶ Filters can be developed independently of the rest of the application
 - ▶ Just plug them into your Web module

Servlet 2.3: Application and Event Listener

■ Application and Event Listener

- ▶ Let listener objects listen for state changes (lifecycle changes and attribute changes) in the **ServletContext** and **HttpSession** objects
 - Create, destroy, add/delete/modify attributes
- ▶ Developer provides a list of these listeners (class files) in the Web module (WAR)
- ▶ Listeners apply to the entire Web module
 - ServletContext and HttpSession apply to the entire Web module

■ Advantages

- ▶ Allows greater control over interactions with the ServletContext and HttpSession objects
- ▶ Web developer can monitor the state of the Web application and perform functions
 - Example: Monitor start/stop of web module, create/deletion of sessions, provide logging facilities, etc.

Section

JSP 1.2

JSP 1.2: Changes/Additions

- XML Views of JSP Pages
 - ▶ New Classes for Tag Library Validation
- Enhanced Tag support
 - ▶ New Tag Support for Iteration
 - ▶ Tag Library Support for Application Lifecycle Events
 - ▶ Tag Library Lifecycle Improvements

JSP 1.2: XML Views of JSP Pages

- JSP 1.2 now allows a JSP page to be an XML document
 - ▶ In addition to the standard JSP syntax that JSP 1.1 allows
 - ▶ "JSP document" is the term used to define the JSP page in XML form
 - ▶ Uses the same file extension (.jsp) as a JSP page
 - ▶ JSP document must have **jsp:root** as the top element
 - jsp:root cannot appear in a regular JSP page
 - It is not valid to mix standard syntax and XML syntax in the same jsp file
 - ▶ JSP documents can pass directly to the Web container

- Advantages to coding using a JSP document:
 - ▶ XML view of a JSP page can be used to validate the JSP page against some DTD, XSD
 - ▶ XML aware tools can manipulate JSP documents
 - ▶ A textual representation can generate a JSP document by applying an XML transformation, such as XSLT
 - ▶ Will become more important as more and more content is authored as XML