

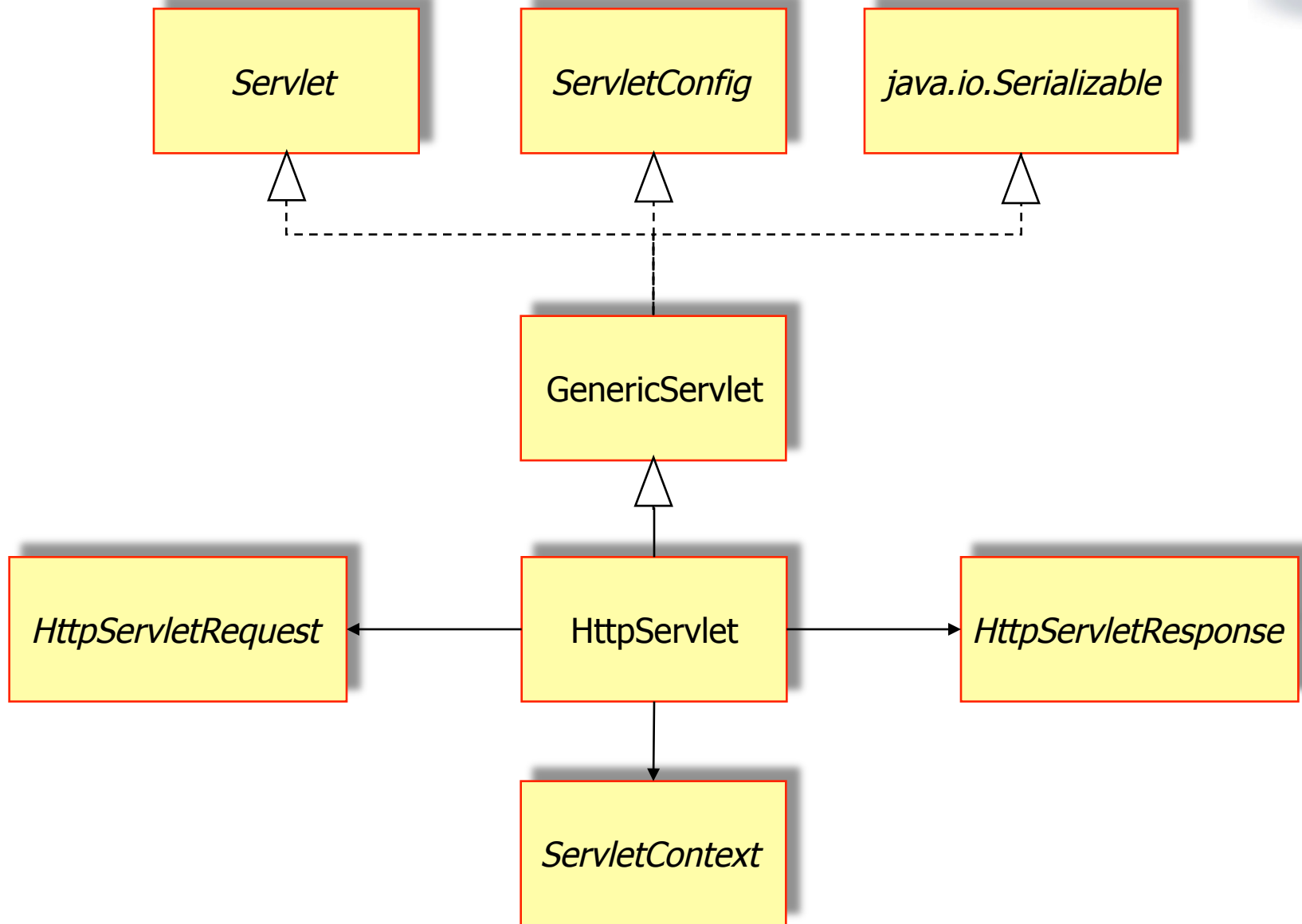


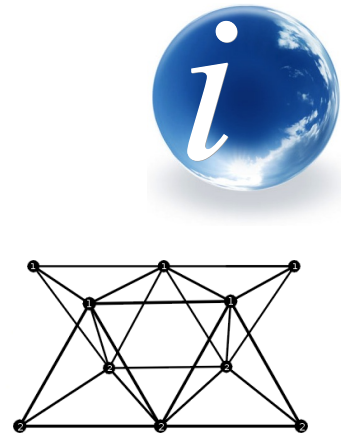
# Architecture des Systèmes d'Information

Servlet Components Instances  
Listener



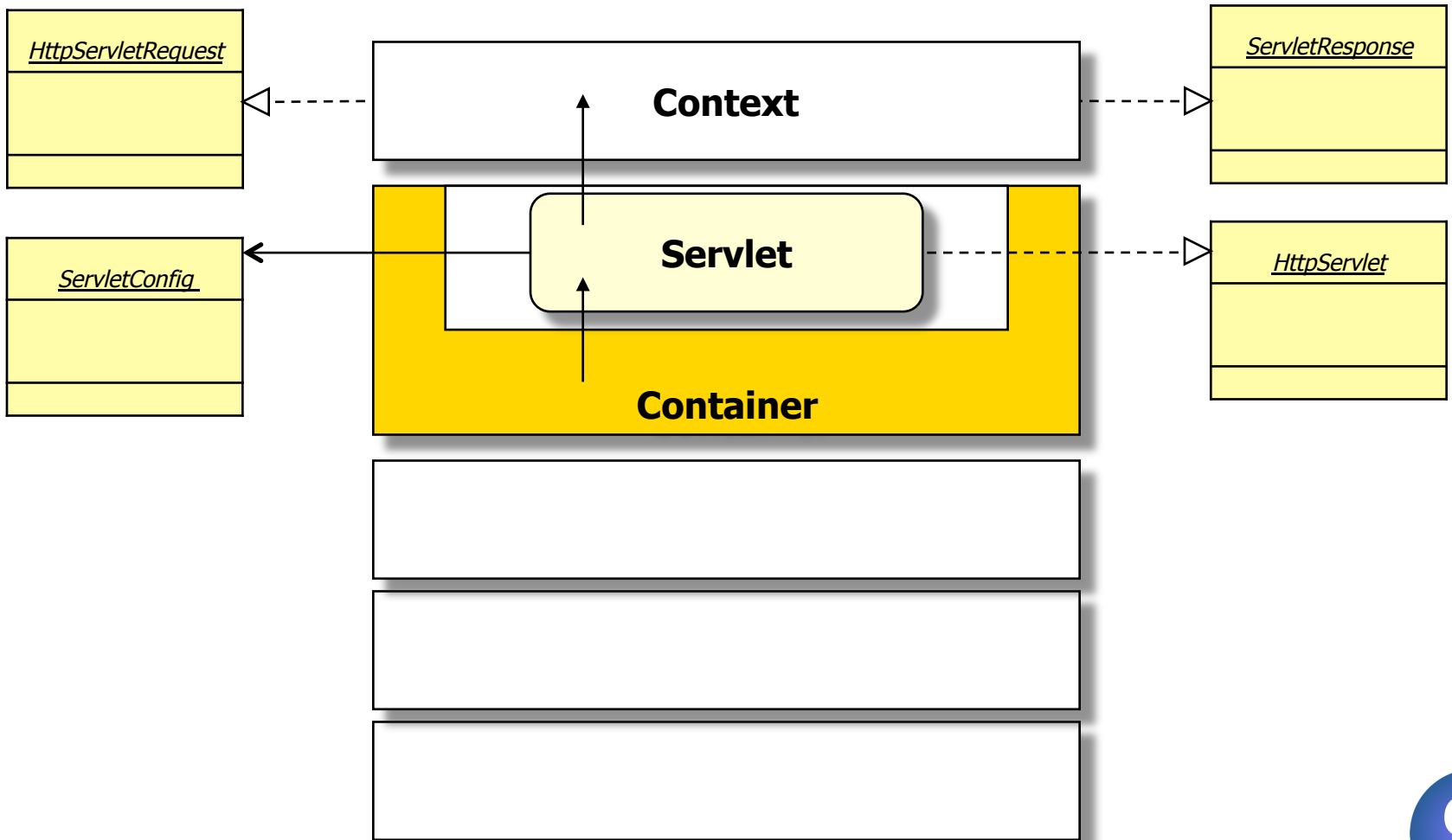
# Servlet Lattice



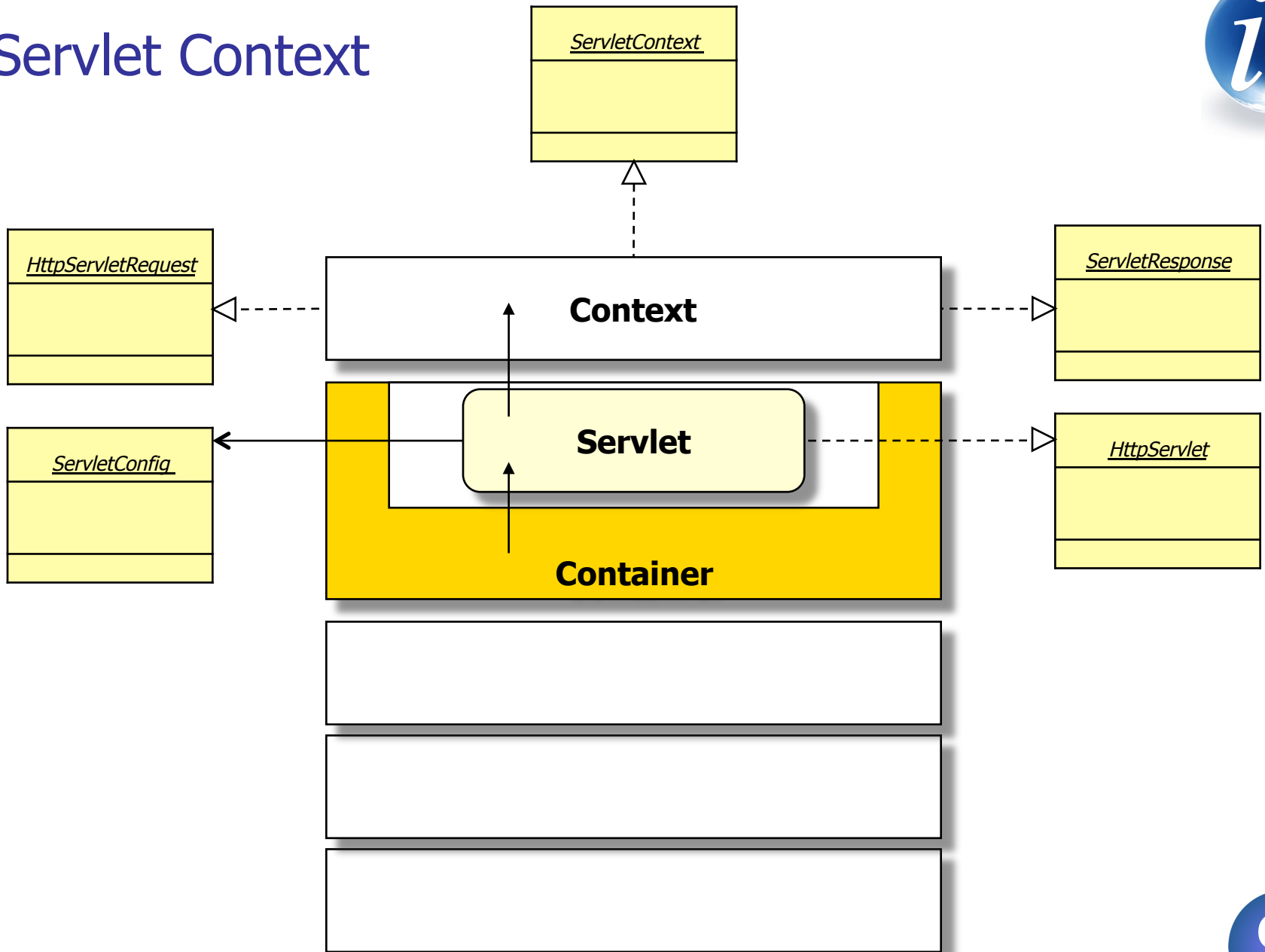


# Servlet API Lattice

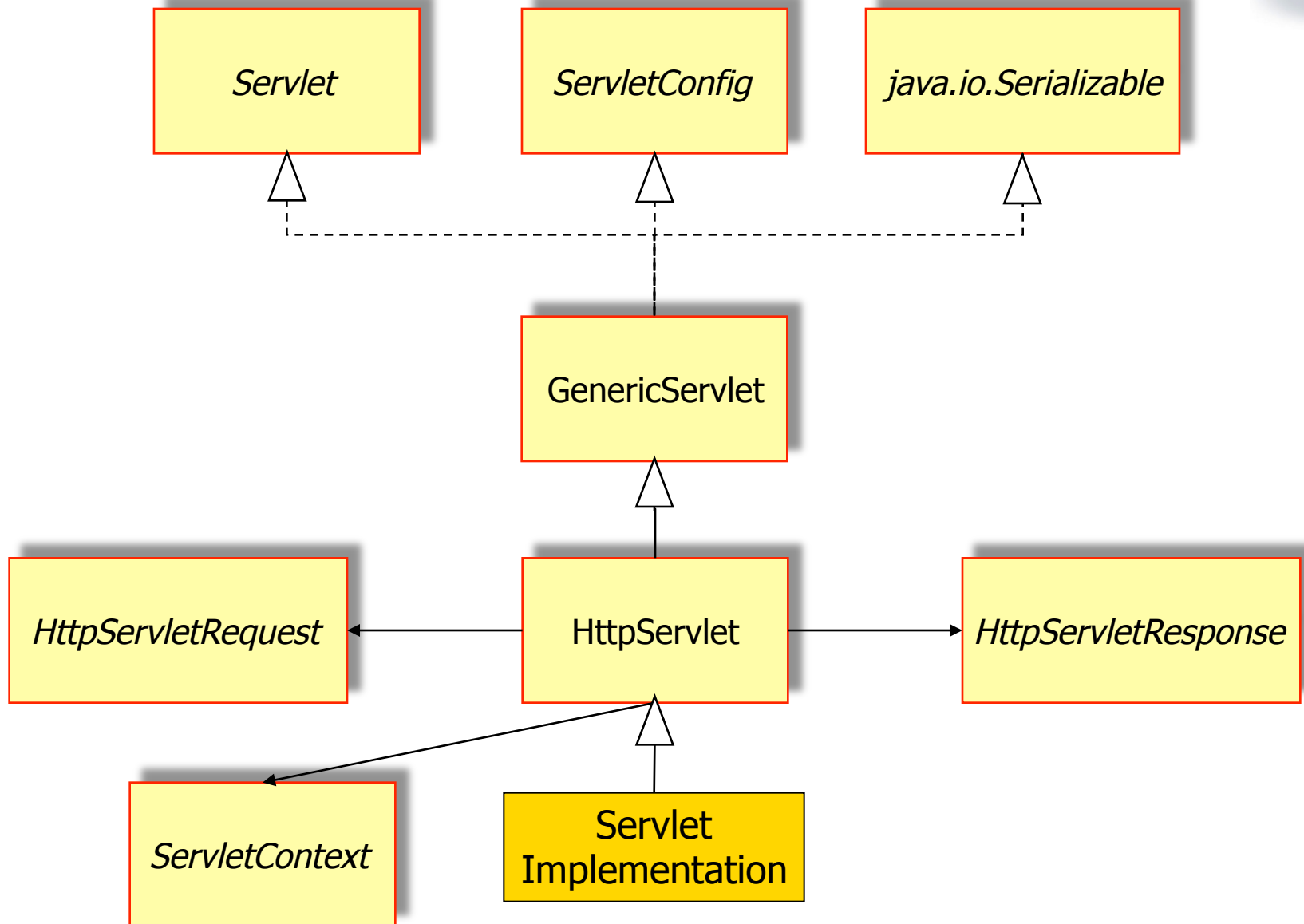
# Servlet Context



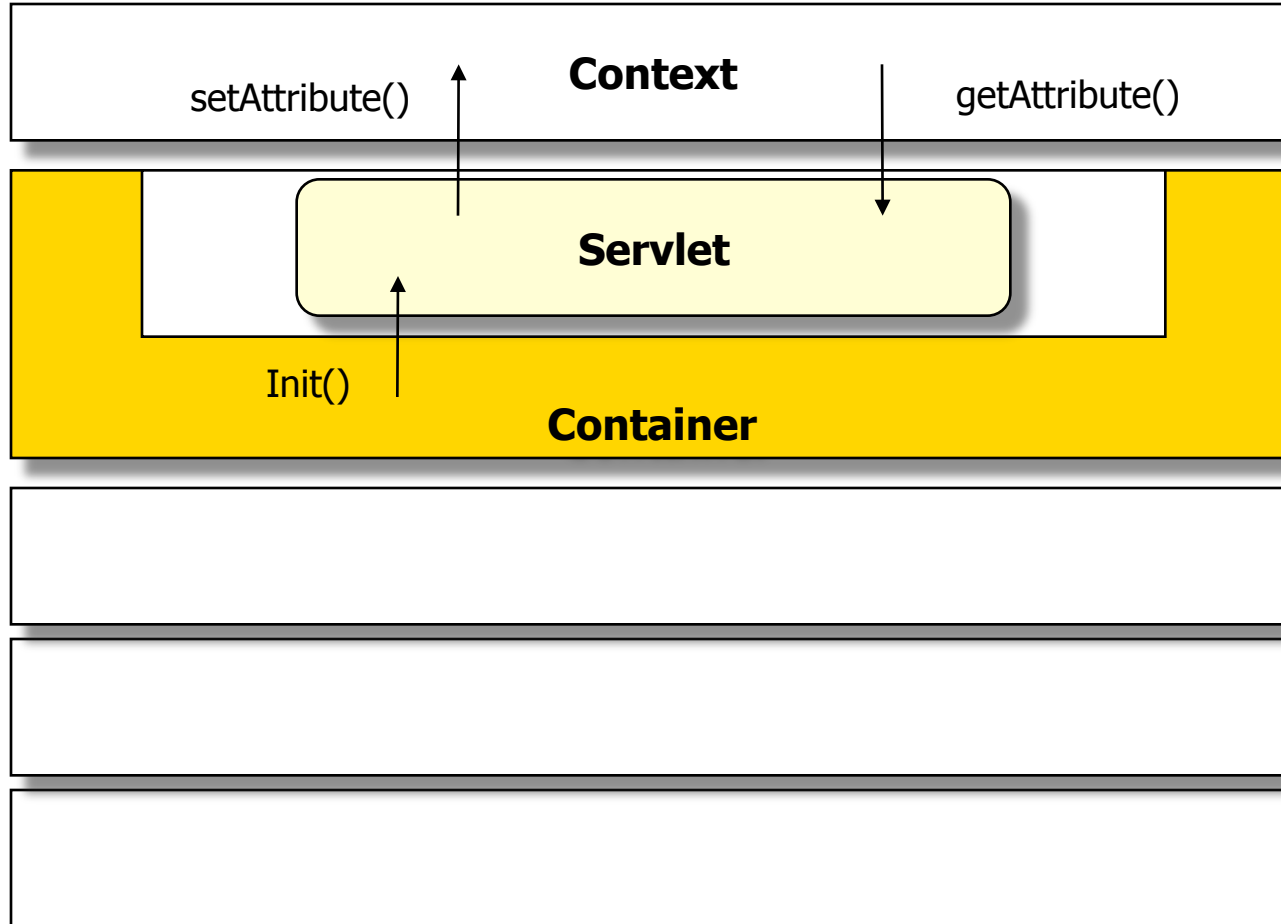
# Servlet Context



# Servlet Lattice



# Servlet Container and Servlet Context





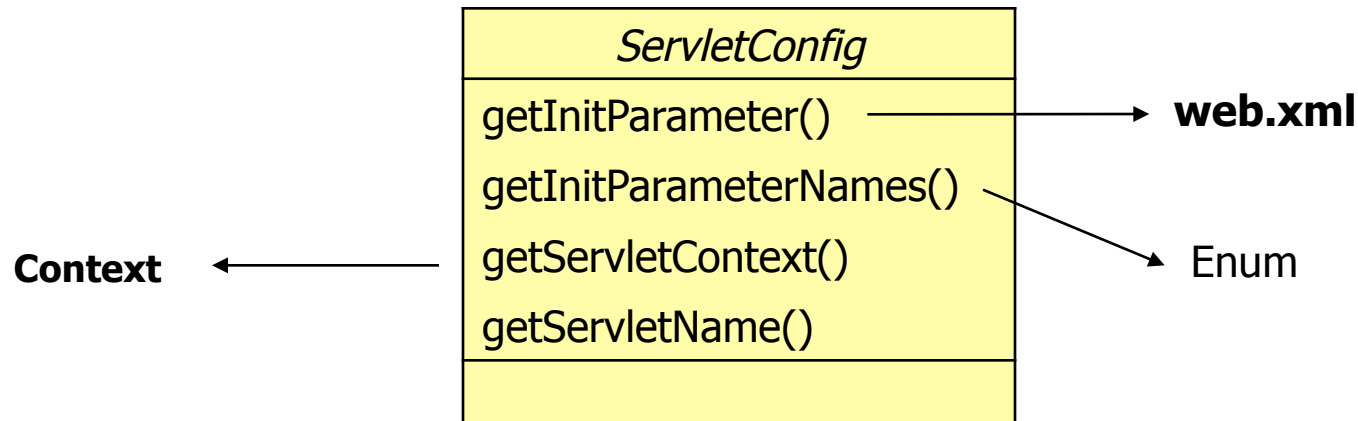
# ServletContext and ServletConfig

- The ServletContext object represents the context for the whole Web application in which a servlet is deployed, and contains initialisation parameters that are shared amongst all servlets in the application.
- The ServletConfig object represents the configuration for a single specific servlet.

<http://www.codestyle.org/java/servlets/faq-Lifecycle.shtml>



# Interface ServletConfig



GenericServlet.getInitParameter() **shortCut to** *ServletConfig*.getInitParameter()

GenericServlet.getServletContext() **shortCut to** *ServletConfig*.getServletContext()



## interface ServletContext

- Defines a set of methods that a servlet uses to communicate with its servlet container.
- The ServletContext object is contained within the ServletConfig object, which the Web server provides the servlet when the servlet is initialized.

# Config

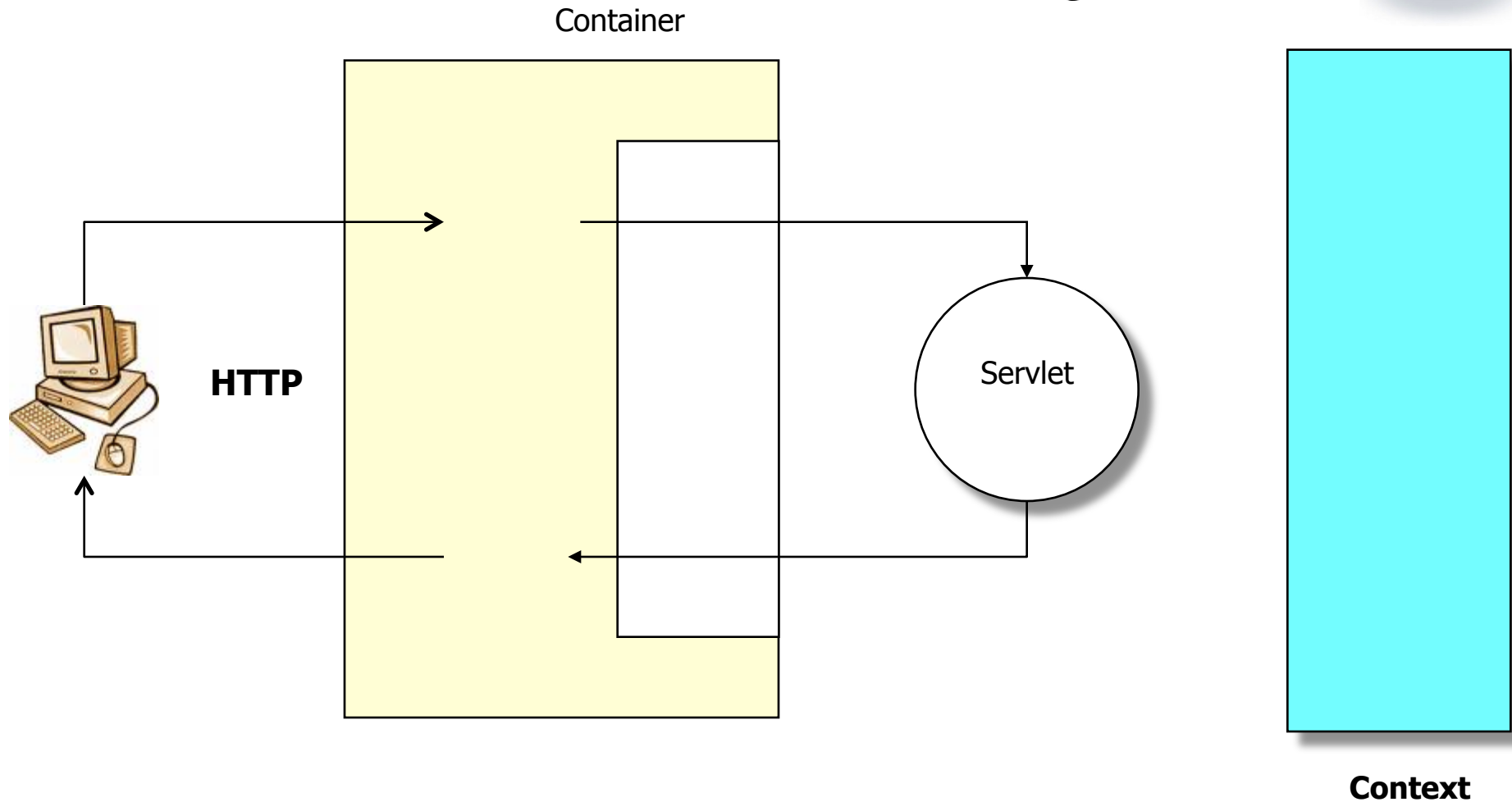


```
public void init (ServletConfig config) throws ServletException {  
    ServletContext context = config.getServletContext();  
    this.lastName = context.getInitParameter("« Name");  
    this.fisrtName = config.getInitParameter("« Name");  
}
```

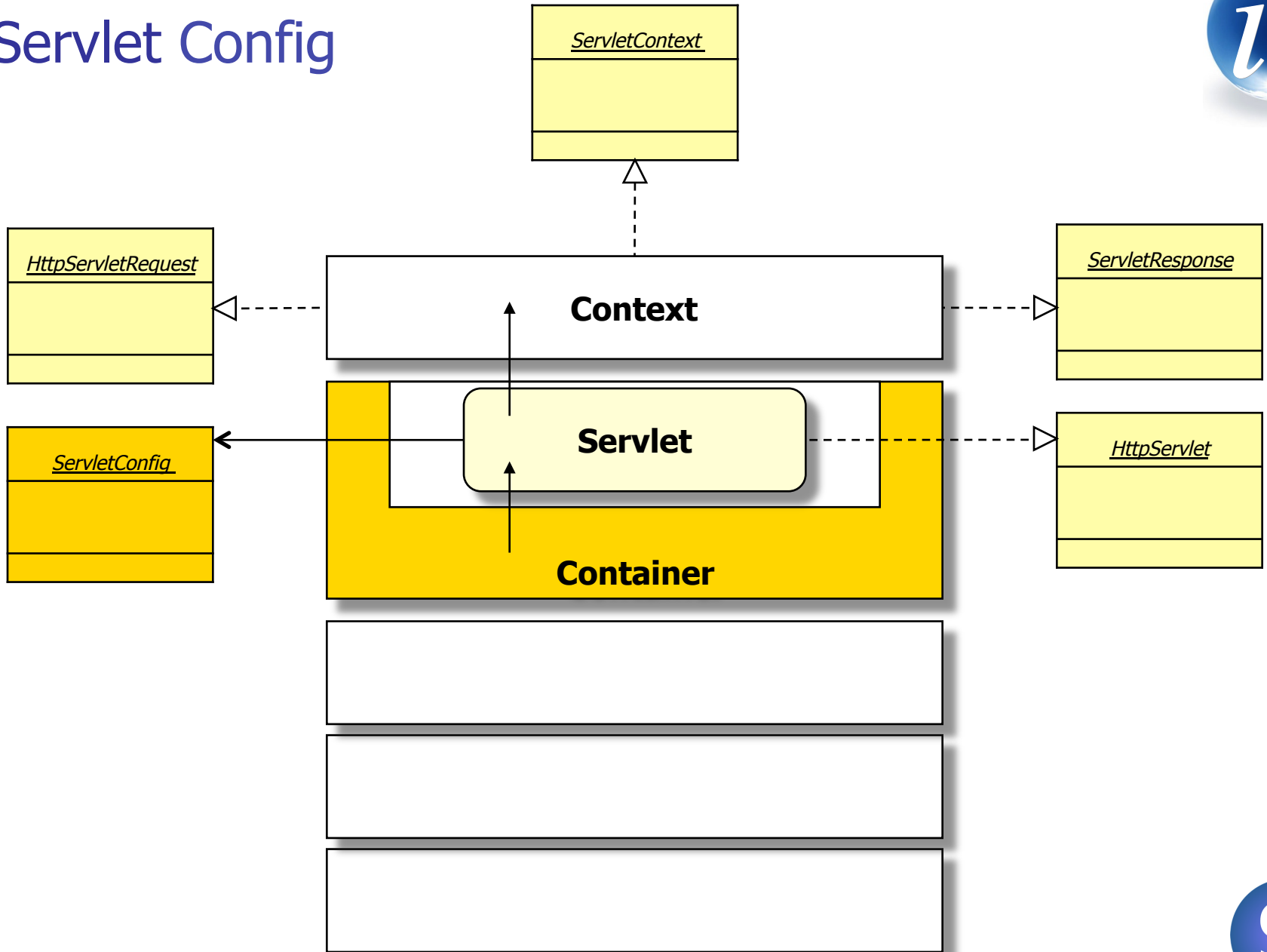
Context  
Application (Last Name)

Config  
Servlet (fistName)

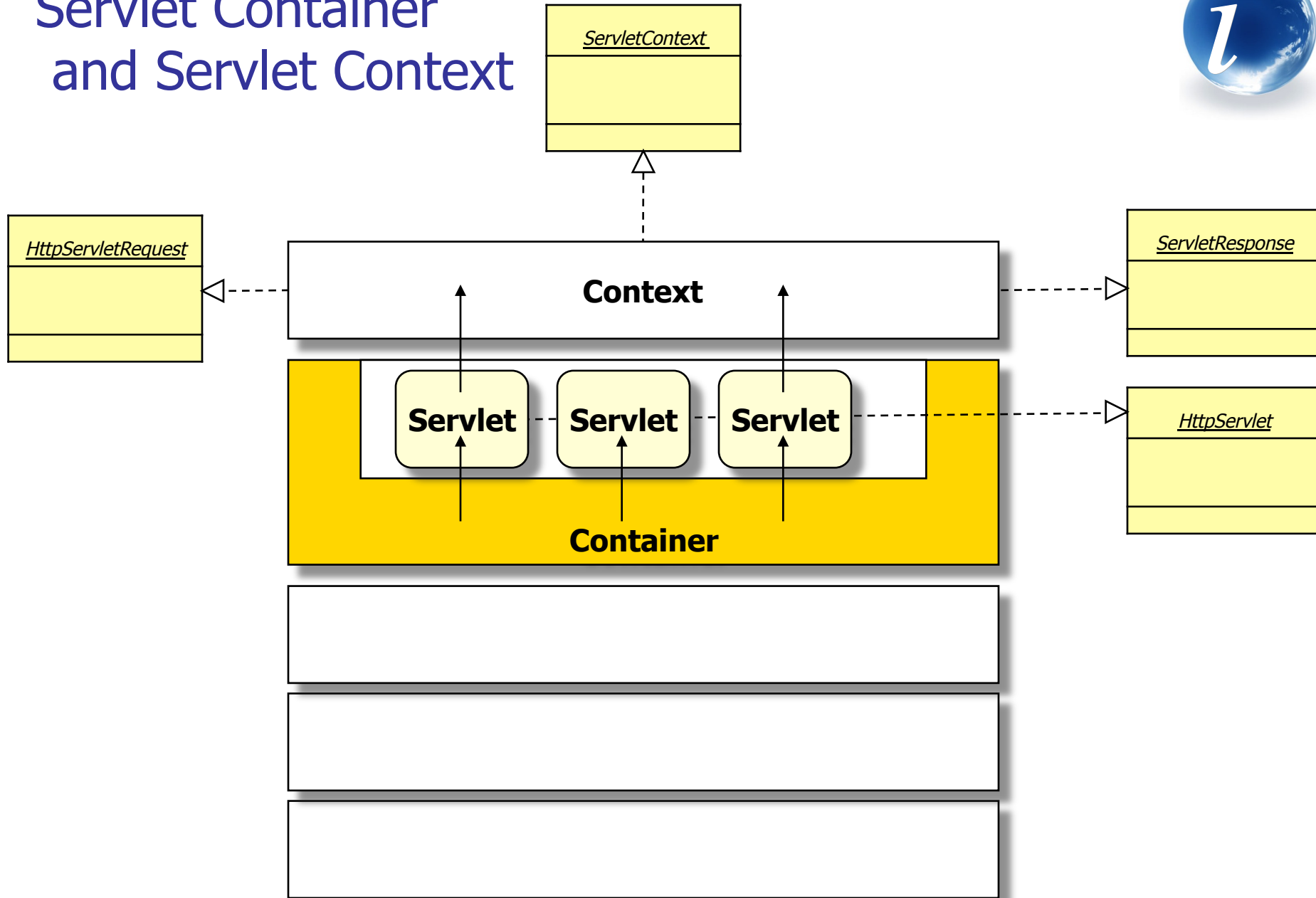
# Big Picture



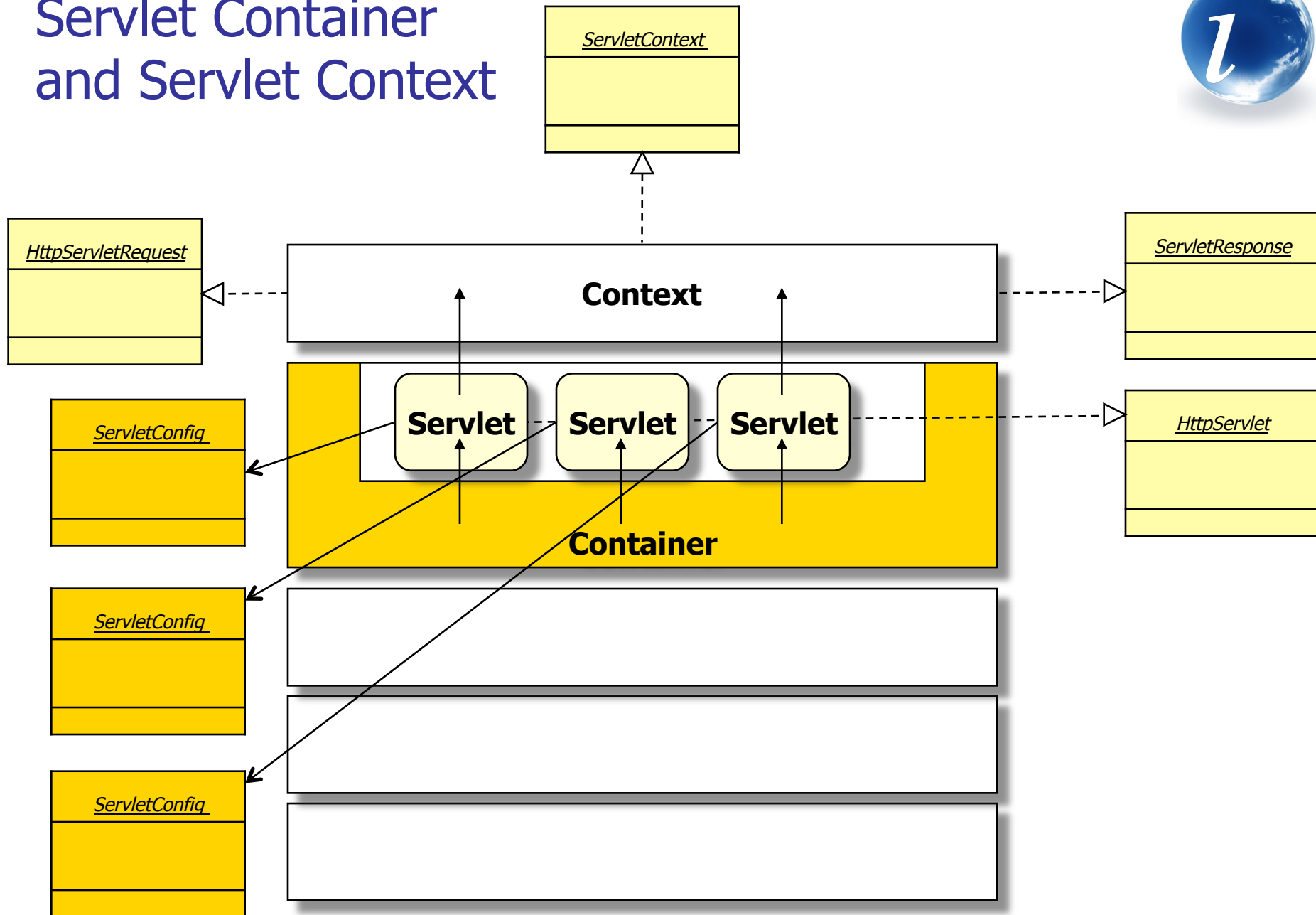
# Servlet Config



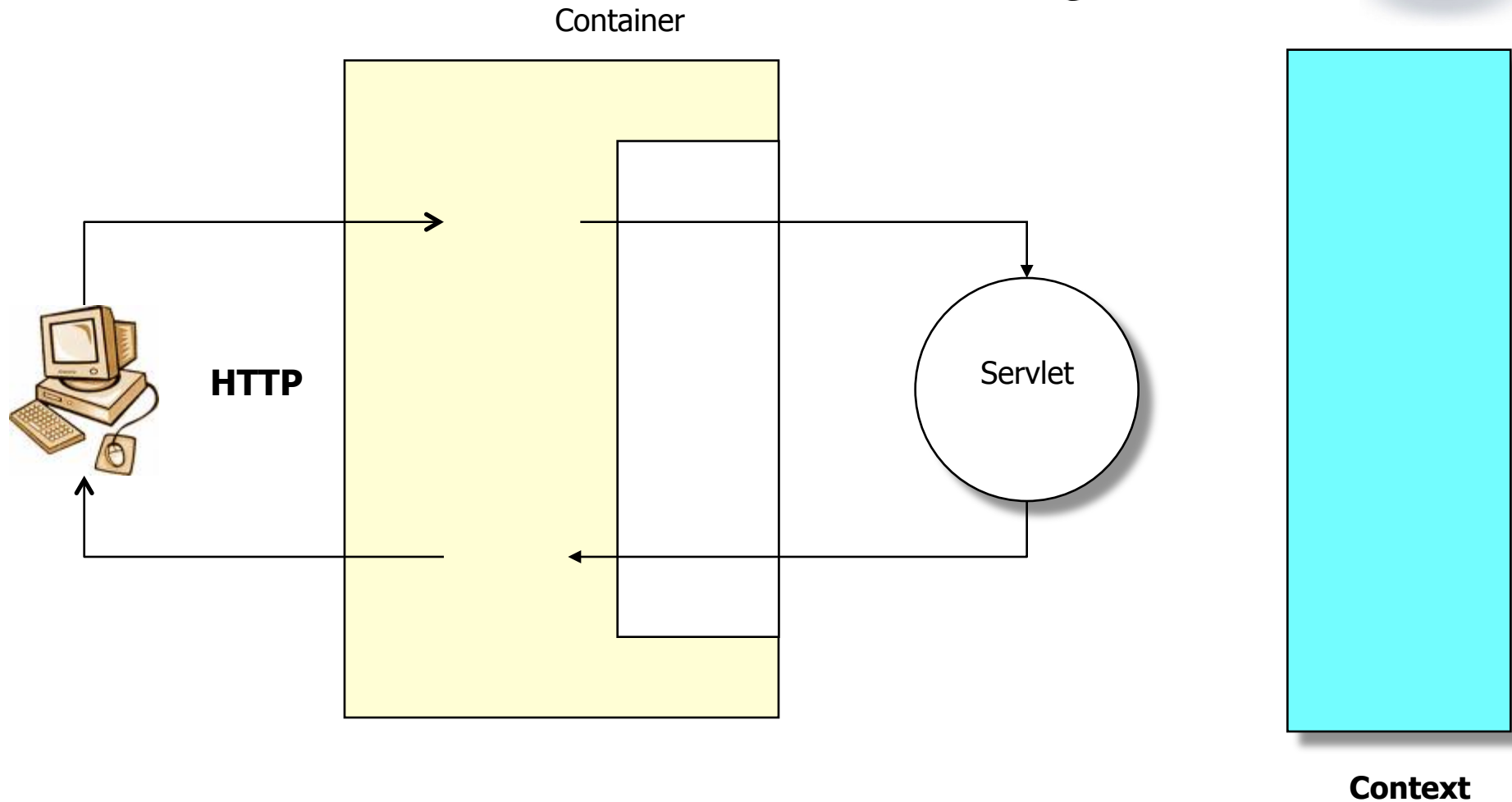
# Servlet Container and Servlet Context



# Servlet Container and Servlet Context

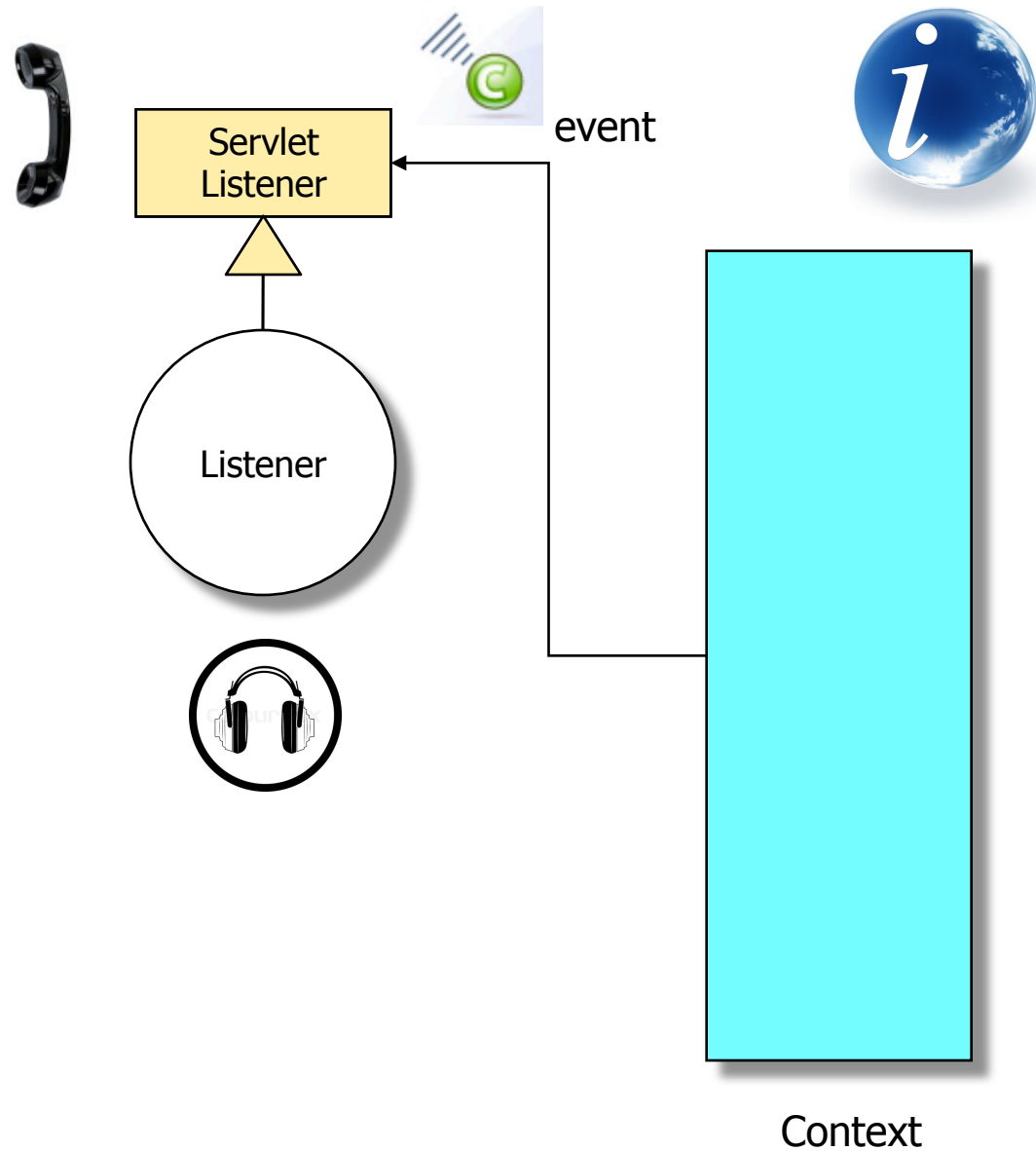
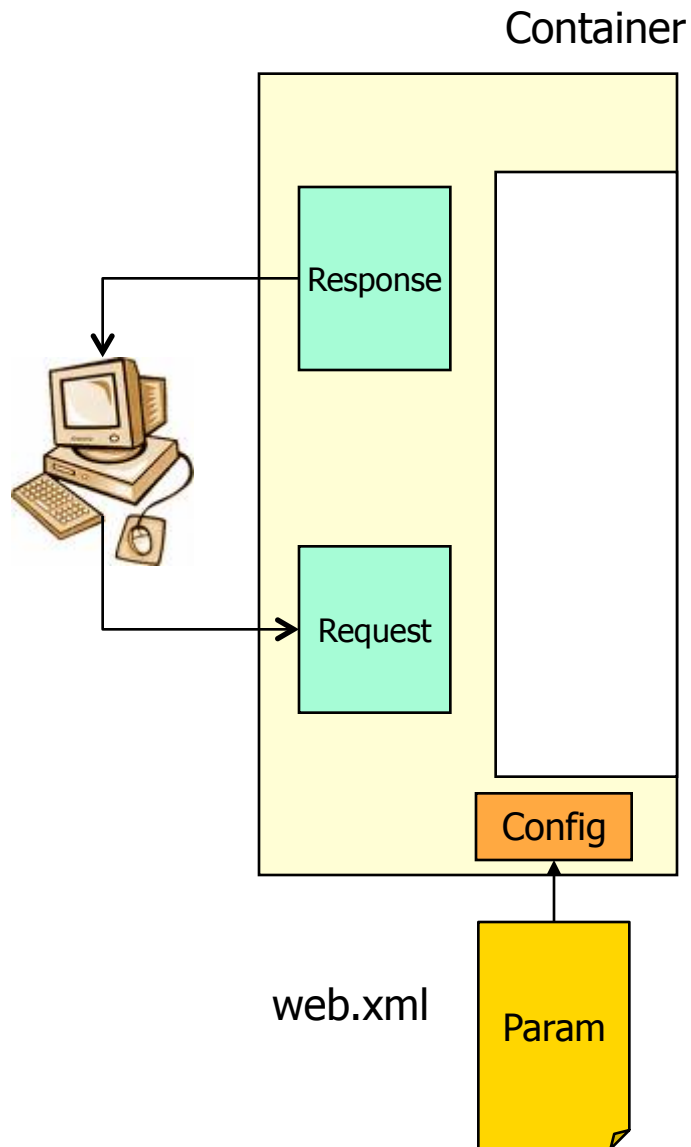


# Big Picture





# Big Picture

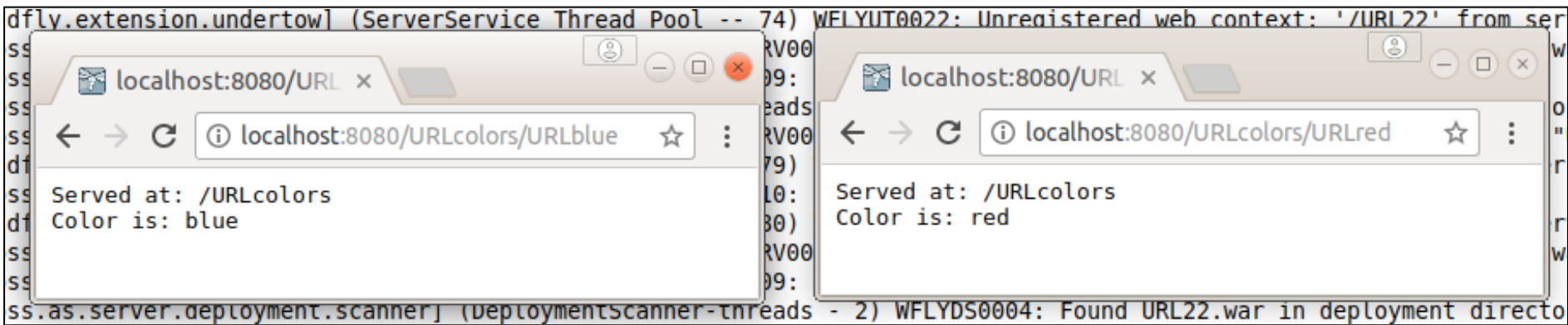


# Colors Servlet



```
web.xml
1 <?xml version="1.0" encoding="UTF-8"?>
2 <!DOCTYPE web-app PUBLIC "-//Sun Microsystems, Inc.//DTD Web Application 2.2//EN" "http://java.sun.com/j2ee/dtds/web-app_2_2.dtd">
3 <web-app id="WebApp_ID">
4
5     <servlet>
6         <servlet-name>URLblue</servlet-name>
7         <servlet-class>urlColor.URLcolor</servlet-class>
8         <init-param>
9             <param-name>color</param-name>
10            <param-value>blue</param-value>
11        </init-param>
12    </servlet>
13
14    <servlet>
15        <servlet-name>URLred</servlet-name>
16        <servlet-class>urlColor.URLcolor</servlet-class>
17        <init-param>
18            <param-name>color</param-name>
19            <param-value>red</param-value>
20        </init-param>
21    </servlet>
22
23    <servlet-mapping>
24        <servlet-name>URLblue</servlet-name>
25        <url-pattern>/URLblue</url-pattern>
26    </servlet-mapping>
27
28    <servlet-mapping>
29        <servlet-name>URLred</servlet-name>
30        <url-pattern>/URLred</url-pattern>
31    </servlet-mapping>
32
33 </web-app>
34
```

# Colors Pages



# Listener Servlet 2.5



Dynamic Web Project

Create a standalone Dynamic Web project or add it to a new or existing Enterprise Application.

Project name: NameContextListener

Project location

☒ Use default location

Location: /home/fuchs/eclipse-workspace/wildfly20180126/NameContextListener Browse...

Target runtime

WildFly 11.0 Runtime New Runtime...

Dynamic web module version

2.5

Configuration

<custom> Modify...

Hint: Get started quickly by selecting one of the pre-defined project configurations.

EAR membership

☐ Add project to an EAR

EAR project name: NameContextListenerEAR New Project...

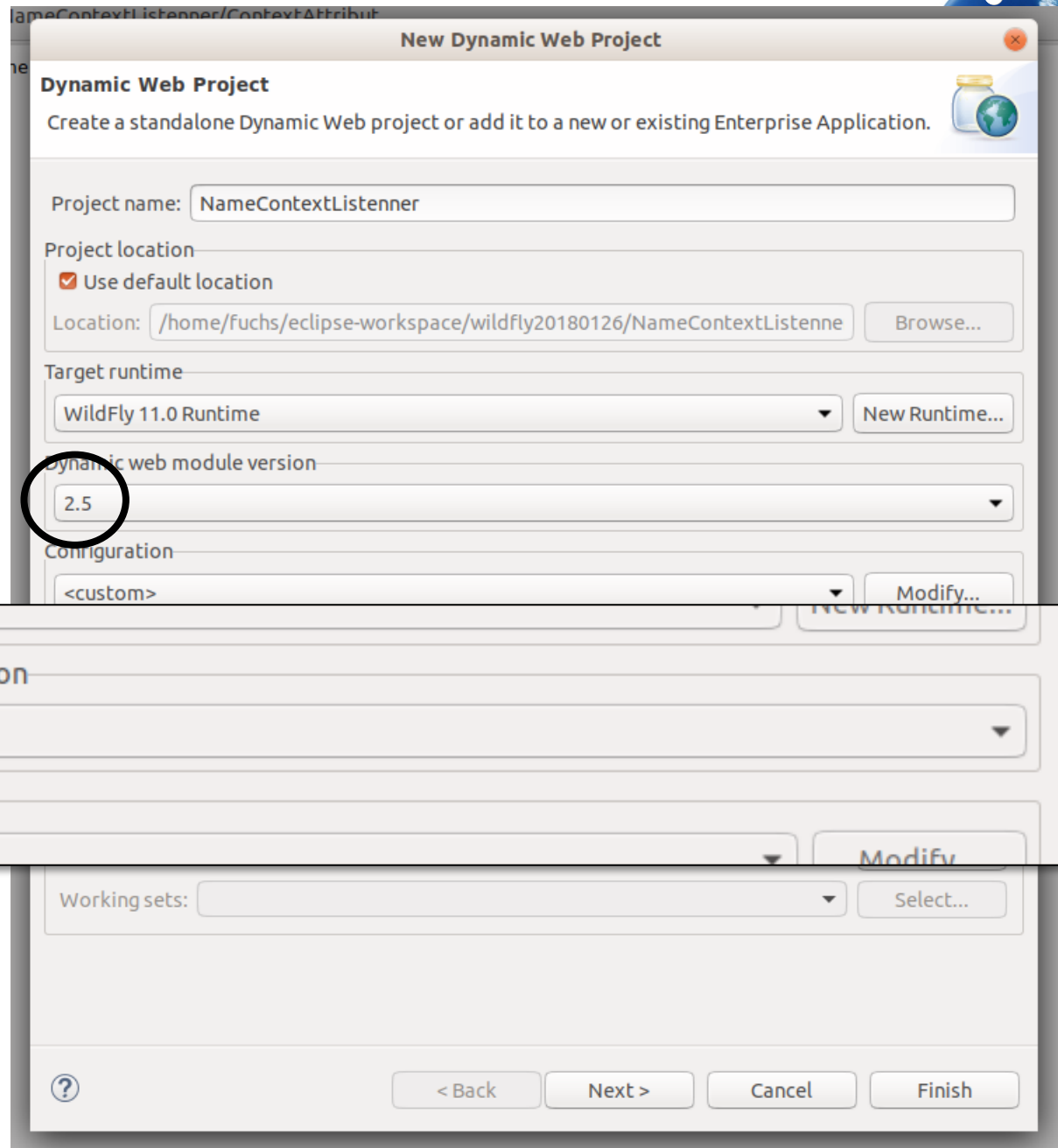
Working sets

☐ Add project to working sets New...

Working sets: Select...

< Back Next > Cancel Finish

# Listener Servlet 2.5



New Dynamic Web Project

Dynamic Web Project

Create a standalone Dynamic Web project or add it to a new or existing Enterprise Application.

Project name: NameContextListener

Project location

☒ Use default location

Location: /home/fuchs/eclipse-workspace/wildfly20180126/NameContextListenne Browse...

Target runtime

WildFly 11.0 Runtime New Runtime...

Dynamic web module version

2.5

Configuration

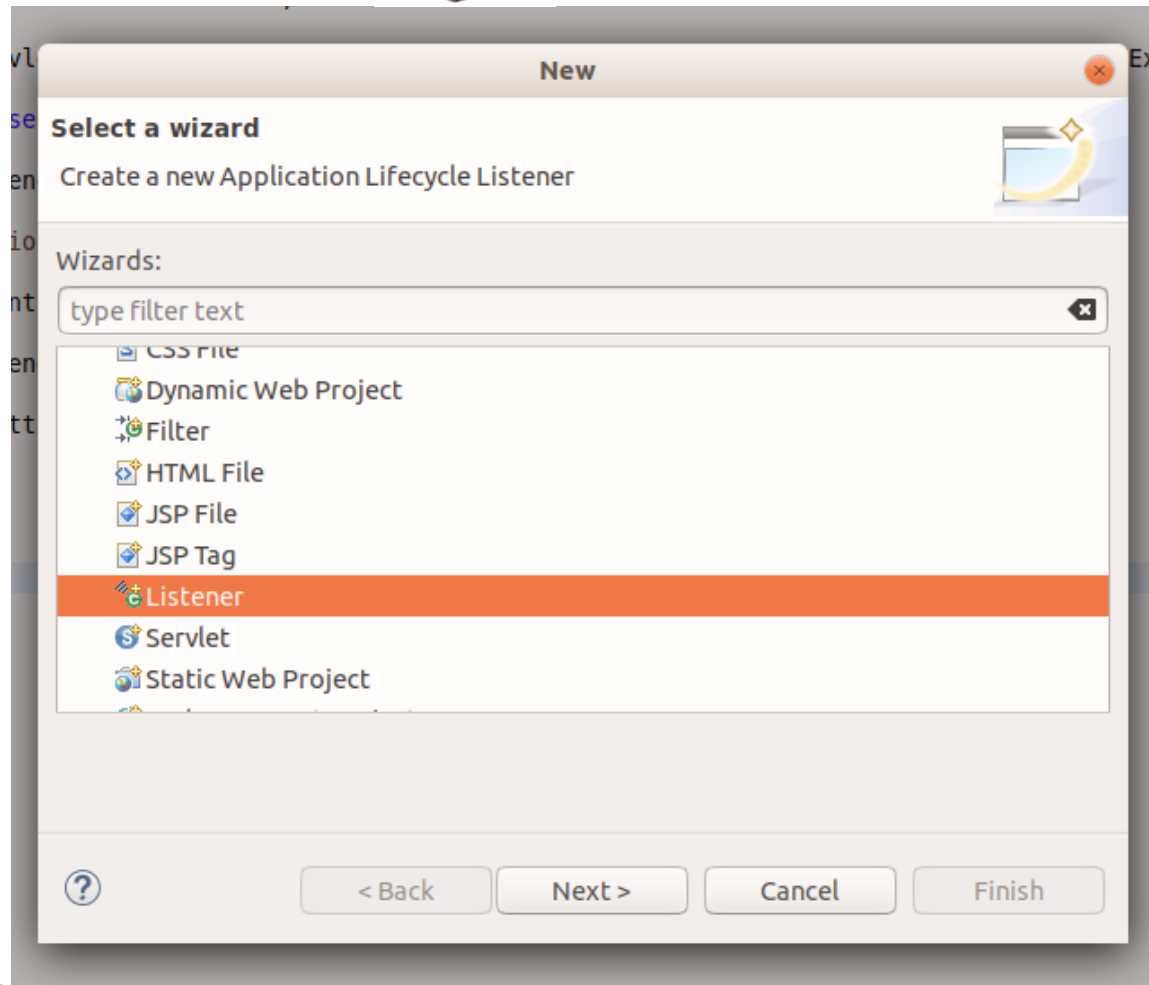
<custom> Modify...

Working sets: Select...

< Back Next > Cancel Finish



# Listener



# Listener



**Create Listener**

Specify class file destination.

Project: NameContextListener

Source folder: /NameContextListener/src Browse...

Java package: contextAttribut Browse...

Class name: ContextAttributListener

Superclass: Browse...

☐ Use existing Listener class

Class name: ContextAttributListener Browse...

? < Back Next > Cancel Finish



# Listener



**Create Listener**

Select the application lifecycle events to listen to.

**Servlet context events**

<input type="checkbox"/> Lifecycle	javax.servlet.ServletContextListener
<input type="checkbox"/> Changes to attributes	javax.servlet.ServletContextAttributeListener

**HTTP session events**

<input type="checkbox"/> Lifecycle	javax.servlet.http.HttpSessionListener
<input type="checkbox"/> Changes to attributes	javax.servlet.http.HttpSessionAttributeListener
<input type="checkbox"/> Session migration	javax.servlet.http.HttpSessionActivationListener
<input type="checkbox"/> Object binding	javax.servlet.http.HttpSessionBindingListener

**Servlet request events**

<input type="checkbox"/> Lifecycle	javax.servlet.ServletRequestListener
<input type="checkbox"/> Changes to attributes	javax.servlet.ServletRequestAttributeListener



# Listener Servlet Context Lifecycle



**Create Listener**

Select the application lifecycle events to listen to.

**Servlet context events**

<input checked="" type="checkbox"/> Lifecycle	javax.servlet.ServletContextListener
<input type="checkbox"/> Changes to attributes	javax.servlet.ServletContextAttributeListener

**HTTP session events**

<input type="checkbox"/> Lifecycle	javax.servlet.http.HttpSessionListener
<input type="checkbox"/> Changes to attributes	javax.servlet.http.HttpSessionAttributeListener
<input type="checkbox"/> Session migration	javax.servlet.http.HttpSessionActivationListener
<input type="checkbox"/> Object binding	javax.servlet.http.HttpSessionBindingListener

**Servlet request events**

<input type="checkbox"/> Lifecycle	javax.servlet.ServletRequestListener
<input type="checkbox"/> Changes to attributes	javax.servlet.ServletRequestAttributeListener



# Listener Servlet Context Lifecycle



```
ContextAttributListener.java
1 package contextAttribut;
2
3 import javax.servlet.ServletContextEvent;
4
5
6 /**
7  * Application Lifecycle Listener implementation class ContextAttributListener
8  *
9  */
10 public class ContextAttributListener implements ServletContextListener {
11
12     /**
13      * Default constructor.
14      */
15     public ContextAttributListener() {
16         // TODO Auto-generated constructor stub
17     }
18
19     /**
20      * @see ServletContextListener#contextDestroyed(ServletContextEvent)
21      */
22     public void contextDestroyed(ServletContextEvent arg0) {
23         // TODO Auto-generated method stub
24     }
25
26     /**
27      * @see ServletContextListener#contextInitialized(ServletContextEvent)
28      */
29     public void contextInitialized(ServletContextEvent arg0) {
30         // TODO Auto-generated method stub
31     }
32
33 }
34
```

# Listener Servlet Context Attribut



**Create Listener**

Select the application lifecycle events to listen to.

**Servlet context events**

<input type="checkbox"/> Lifecycle	javax.servlet.ServletContextListener
<input checked="" type="checkbox"/> Changes to attributes	javax.servlet.ServletContextAttributeListener

**HTTP session events**

<input type="checkbox"/> Lifecycle	javax.servlet.http.HttpSessionListener
<input type="checkbox"/> Changes to attributes	javax.servlet.http.HttpSessionAttributeListener
<input type="checkbox"/> Session migration	javax.servlet.http.HttpSessionActivationListener
<input type="checkbox"/> Object binding	javax.servlet.http.HttpSessionBindingListener

**Servlet request events**

<input type="checkbox"/> Lifecycle	javax.servlet.ServletRequestListener
<input type="checkbox"/> Changes to attributes	javax.servlet.ServletRequestAttributeListener



# Listener Servlet Context Attribut



```
1 package contextAttribut;  
2  
3 import javax.servlet.ServletContextAttributeEvent;  
4  
5  
6 public class attributListener implements ServletContextAttributeListener {  
7  
8     public attributListener() {  
9     }  
10  
11     public void attributeAdded(ServletContextAttributeEvent arg0) {  
12  
13         System.out.println("ServletContext attribute added => "  
14             + "{ " + arg0.getName() + ", " + arg0.getValue() + " }");  
15     }  
16  
17     public void attributeRemoved(ServletContextAttributeEvent arg0) {  
18         System.out.println("ServletContext attribute removed => "  
19             + "{ " + arg0.getName() + ", " + arg0.getValue() + " }");  
20     }  
21  
22     public void attributeReplaced(ServletContextAttributeEvent arg0) {  
23         System.out.println("ServletContext attribute Replaced => "  
24             + "{ " + arg0.getName() + ", " + arg0.getValue() + " }");  
25     }  
26  
27 }  
28
```



# Listener Servlet Context Attribut web.xml

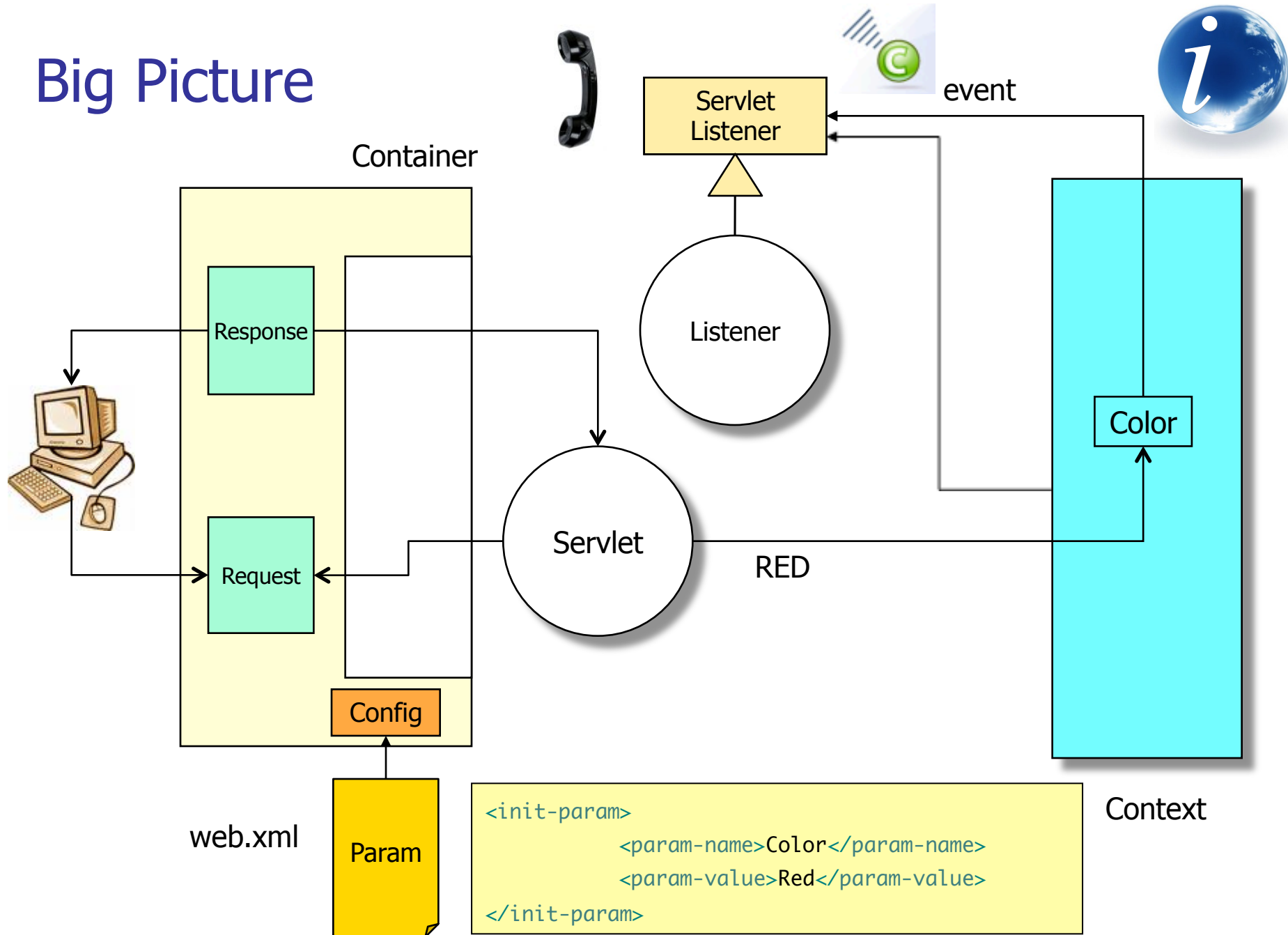


```
attributListener.java  web.xml  ContextAttribut.java  Web Browser
1  <?xml version="1.0" encoding="UTF-8"?>
2  <web-app xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://www.w3.org/2001/XMLSchema-instance"
3  <servlet>
4      <servlet-name>ContextAttribut</servlet-name>
5      <servlet-class>contextAttribut.ContextAttribut</servlet-class>
6  <init-param>
7      <param-name>color</param-name>
8      <param-value>blue</param-value>
9  </init-param>
10 </servlet>
11
12 <servlet>
13     <servlet-name>ContextAttribut2</servlet-name>
14     <servlet-class>contextAttribut.ContextAttribut</servlet-class>
15 <init-param>
16     <param-name>color</param-name>
17     <param-value>red</param-value>
18 </init-param>
19 </servlet>
20
21 <servlet-mapping>
22     <servlet-name>ContextAttribut</servlet-name>
23     <url-pattern>/ContextAttribut</url-pattern>
24 </servlet-mapping>
25
26 <servlet-mapping>
27     <servlet-name>ContextAttribut2</servlet-name>
28     <url-pattern>/ContextAttribut2</url-pattern>
29 </servlet-mapping>
30
31 <listener>
32     <listener-class>contextAttribut.attributListener</listener-class>
33 </listener>
34
35 </web-app>
```

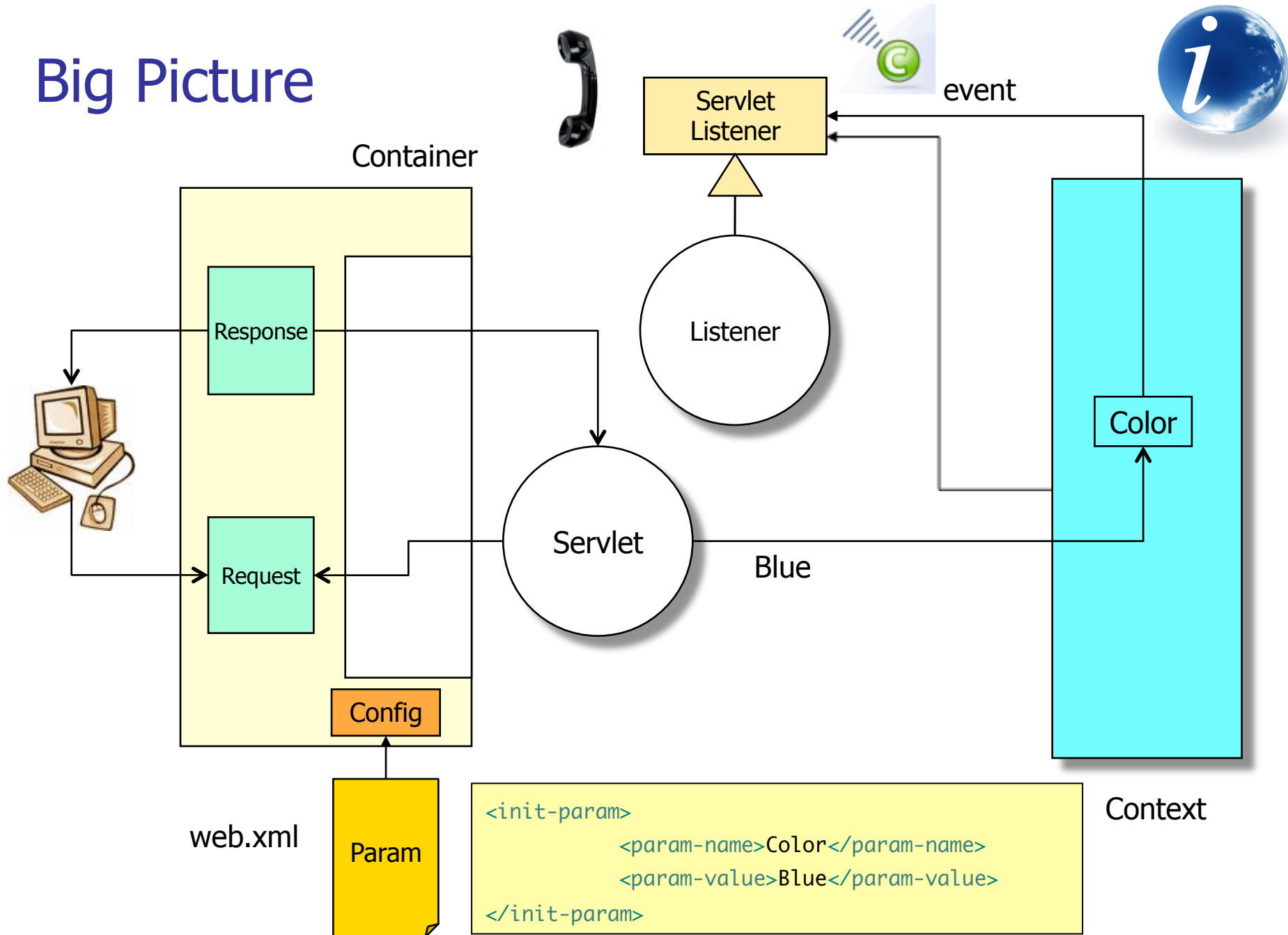


WildFly

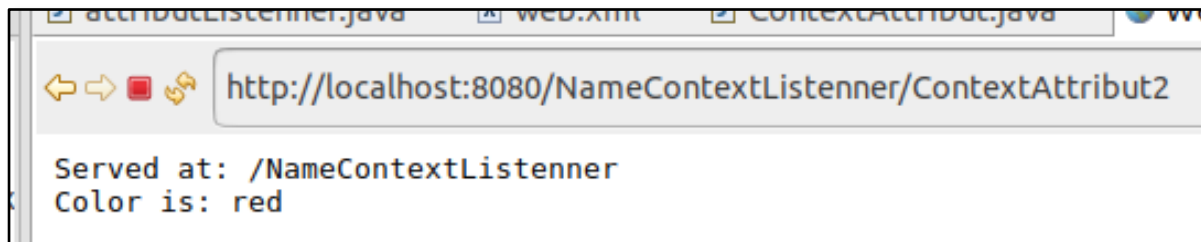
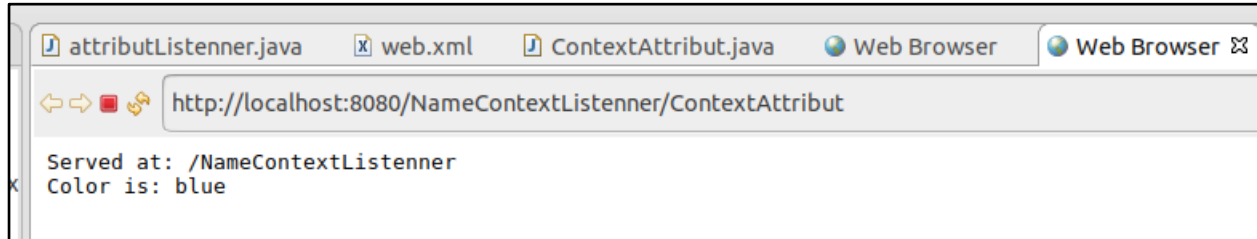
# Big Picture



# Big Picture



# Listener Servlet Context Attribute Web page





# Listener Servlet Context Attribute Console Output



```
Servers Console
WildFly 11 [JBoss Application Server Startup Configuration] /usr/lib/jvm/java-8-openjdk-amd64/bin/java (1 mars 2018 à 17:22:44)
21:46:09,045 INFO [stdout] (default task-49) URL servlet Ok
21:46:09,046 INFO [stdout] (default task-49) ServletContext attribute added => { color,red }
21:46:15,350 INFO [stdout] (default task-50) URL servlet Ok
21:46:15,351 INFO [stdout] (default task-50) ServletContext attribute Replaced => { color,red }
21:46:17,307 INFO [stdout] (default task-51) URL servlet Ok
21:46:17,307 INFO [stdout] (default task-51) ServletContext attribute Replaced => { color,blue }
21:46:31,114 INFO [stdout] (default task-52) URL servlet Ok
21:46:31,114 INFO [stdout] (default task-52) ServletContext attribute Replaced => { color,blue }
21:46:32,320 INFO [stdout] (default task-53) URL servlet Ok
21:46:32,320 INFO [stdout] (default task-53) ServletContext attribute Replaced => { color,red }
```



