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Framework = Framework+Framework

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okcode@gmail.com

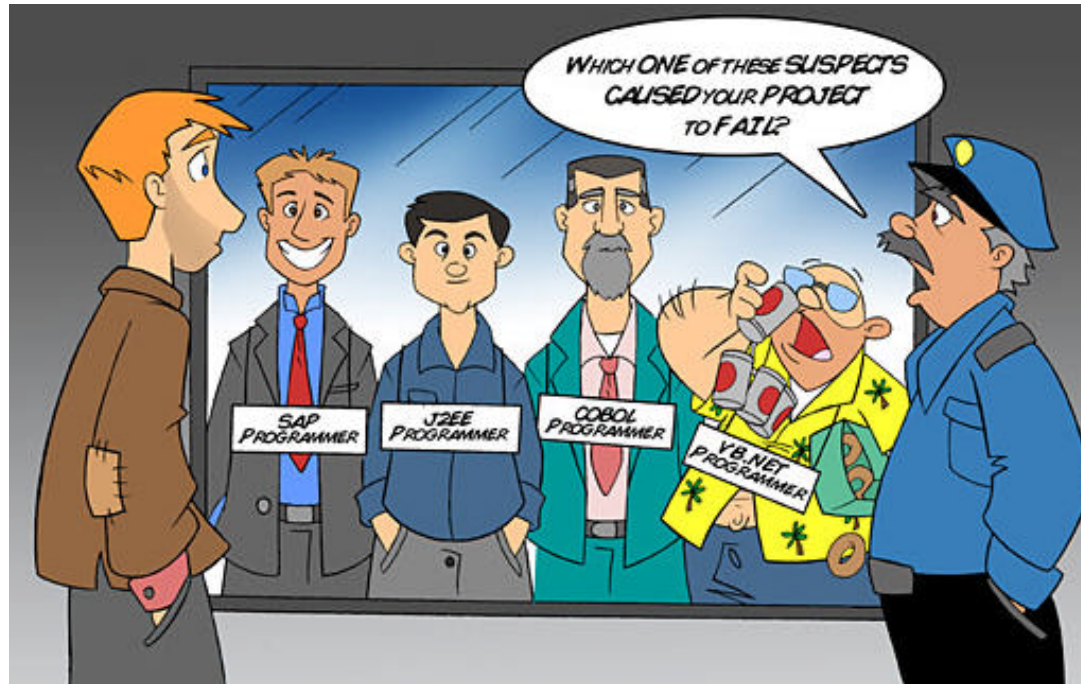


SCA(Software Community Alliance)

<http://www.scakorea.org>

<http://www.pro-java.com>

The Unusual Suspects

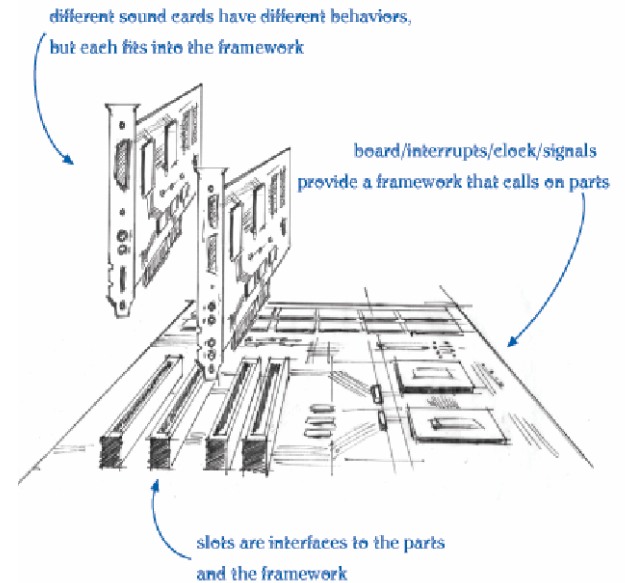


?

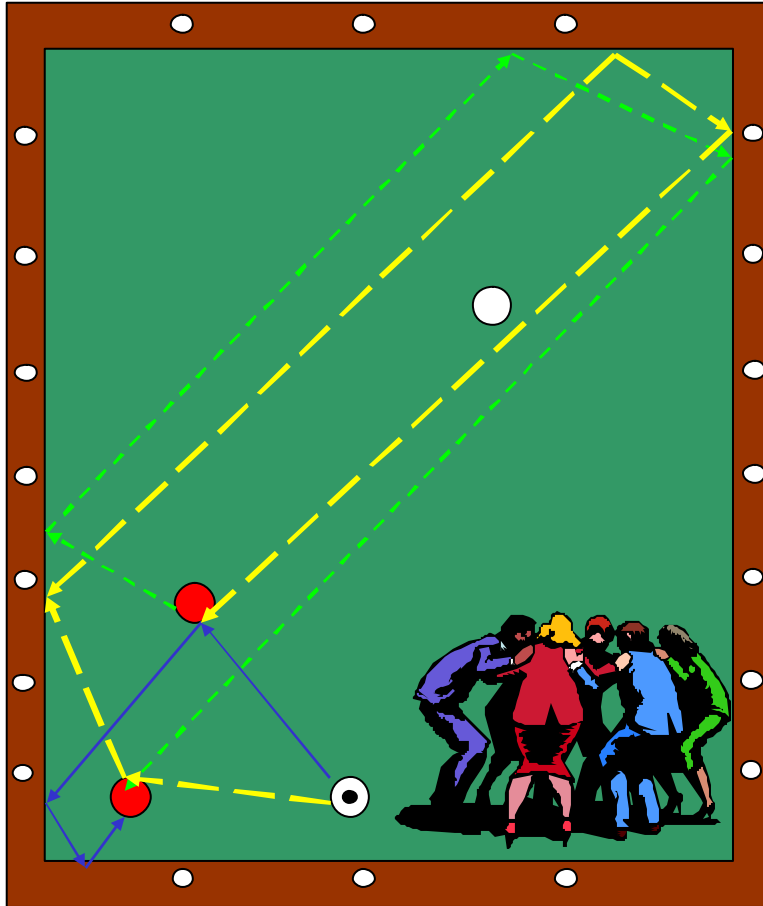
- Framework



domain system Application generic software (R. Johnson).



Framework (?)



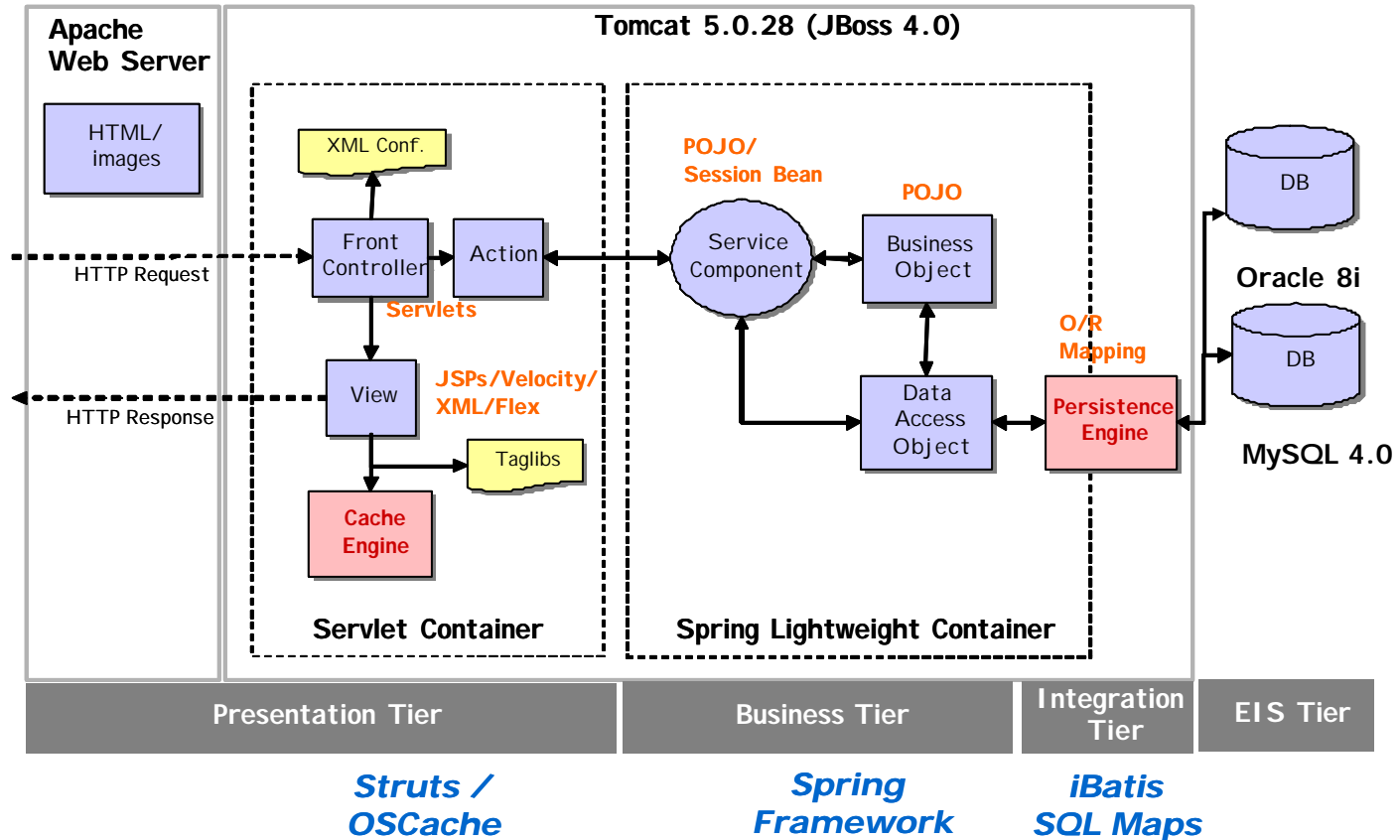
Framework

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OpenSource + Framework



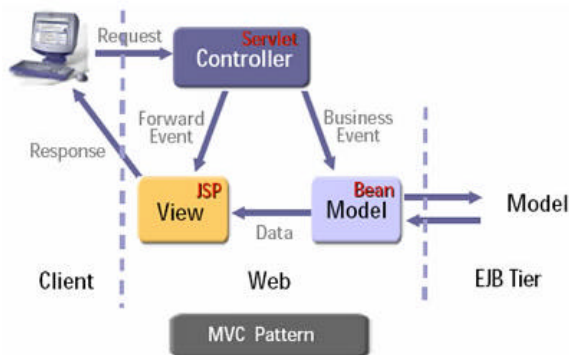
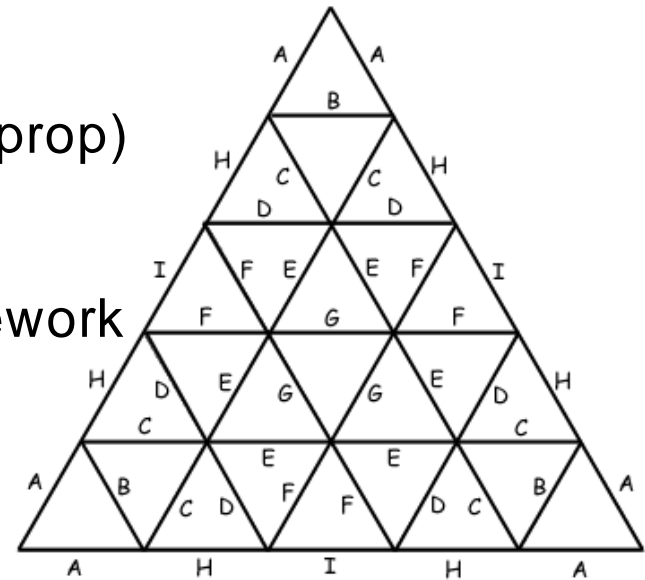
Framework = Framework + Framework



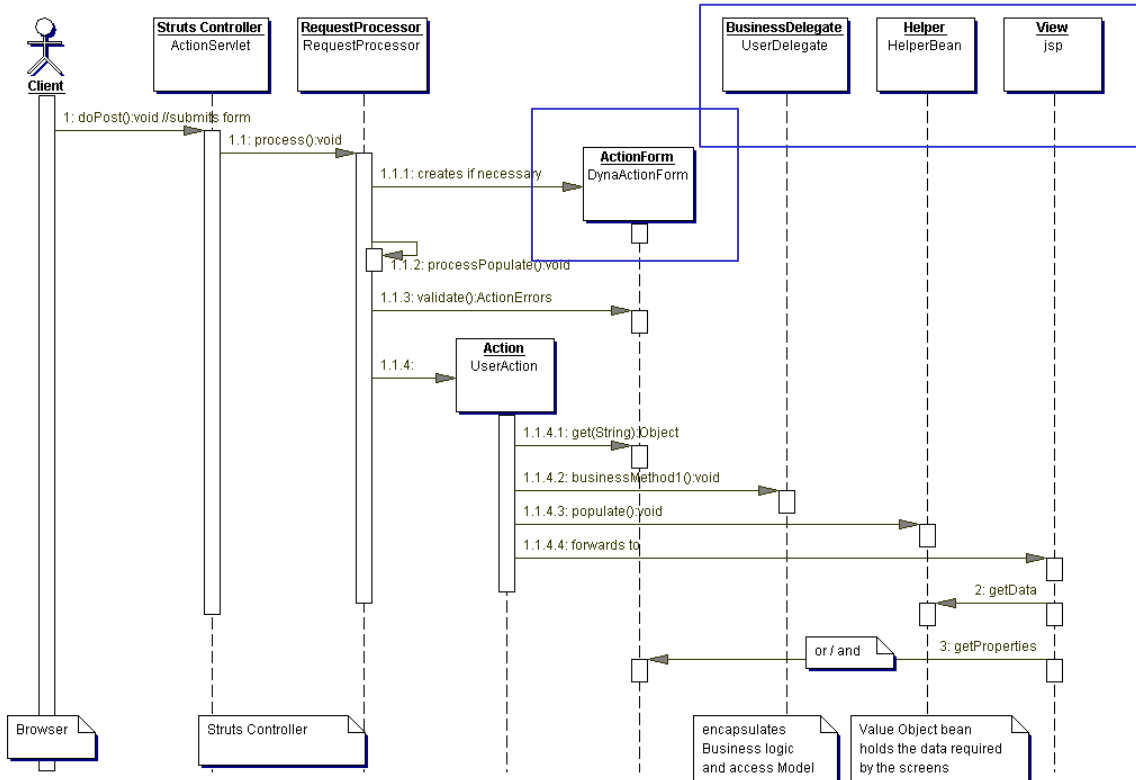
Struts

- **strut**
 - n. (支柱), (prop)
- **Struts**
 - 가
 - ,
 - Control

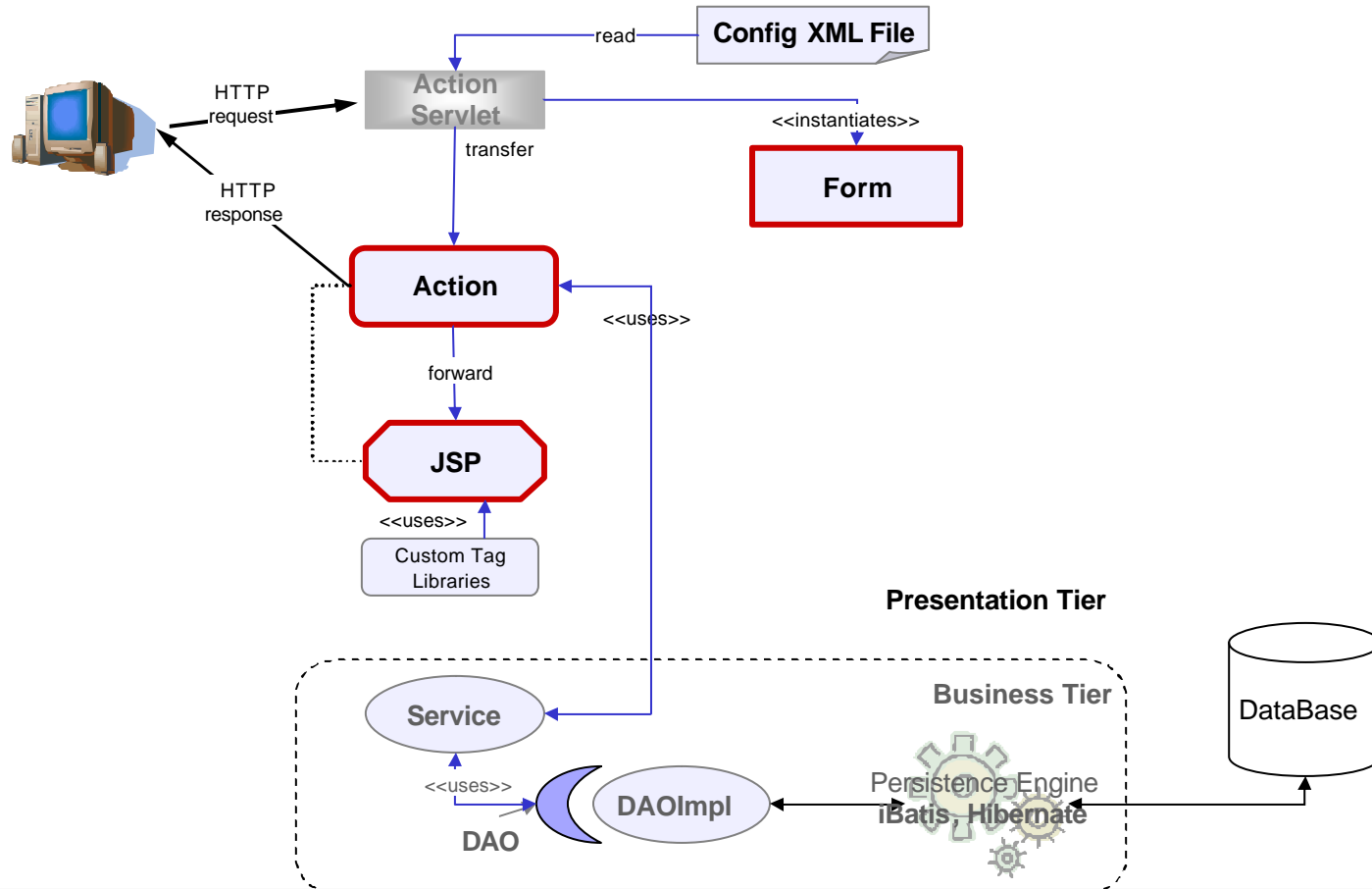
Framework



Struts Sequence Diagram



Struts Flow Diagram



Flow Control - struts - config.xml

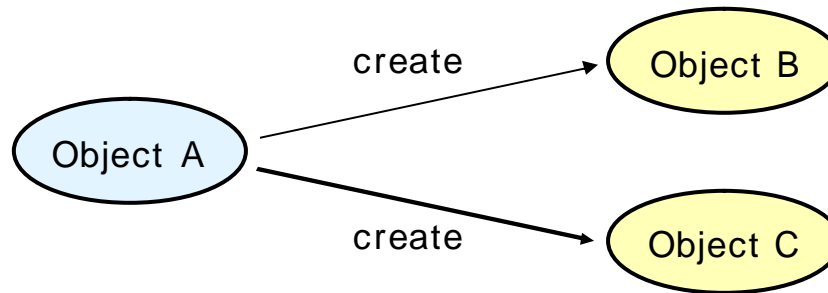
```
<form-beans>
  <form-bean type="jcf.board.web.form.BoardForm"
    name="boardForm"/>
</form-beans>
```

```
<action path="/board/saveBoard"
  input="/board/editBoard.jsp"
  attribute="boardForm"
  name="boardForm"
  parameter="saveBoard"
  type="jcf.board.web.action.BoardAction"
  validate="true"
  scope="request">
  <forward name="viewBoardList" path="/board/viewBoardList.do"
    redirect="false" />
  <forward name="viewBoard" path="/board/viewBoard.do" />
  <forward name="fail" path="/board/editBoard.do" />
</action>
```

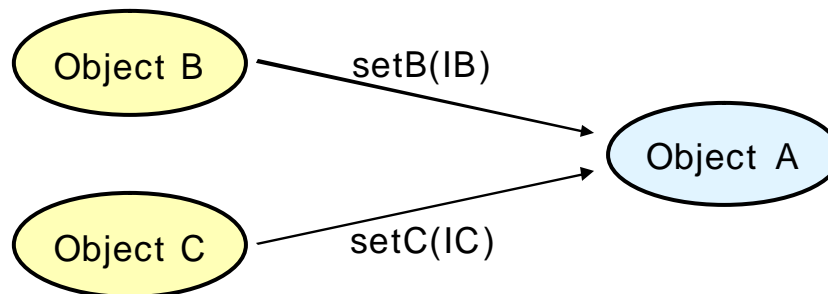
-
- Flow : struts - config.xml
 - : Form, Action
 - Form <http:form> tag lib
mapping
 - vs Learning Curve
 - vs IDE
 - Struts vs

IoC/ Dependency Injection

- Non Dependency Injection



- Dependency Injection



Non IoC vs IoC

```
public class Developer implements Servicable {  
    Programming prog;  
    public Developer () { prog = new StrutsProgramming();}  
    public void createModule() { prog.createModule();}  
}
```

Non IoC

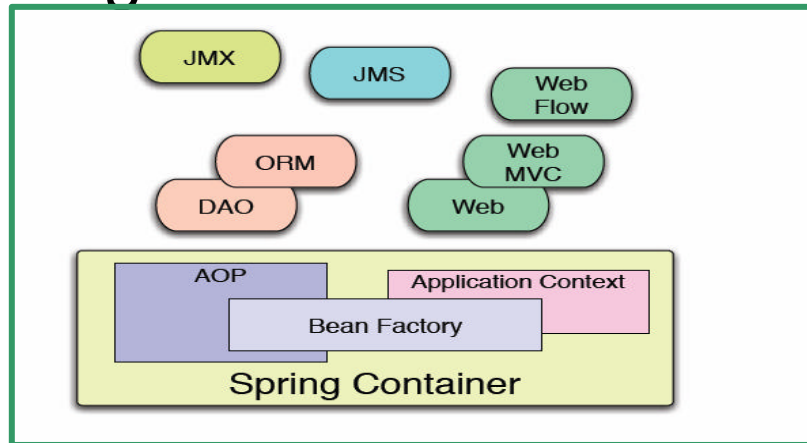
```
public class Developer implements Servicable {  
    Programming prog;  
    public Developer () {}  
    public void setProg(Programming prog) {  
        this.prog = prog  
    }  
    public void createModule() { prog.createModule();}  
}
```

IoC

```
<beans>  
    <bean id="struts" class="StrutsProgramming"/>  
    <bean id="developer" class="Developer">  
        <property name="prog"><ref bean="struts"/></property>  
    </bean>  
</beans>
```

DI vs Lightweight Container

- Dependency Injection Type
 - Setter Injection
 - Constructor Injection
 - Method Injection
- Lightweight Container

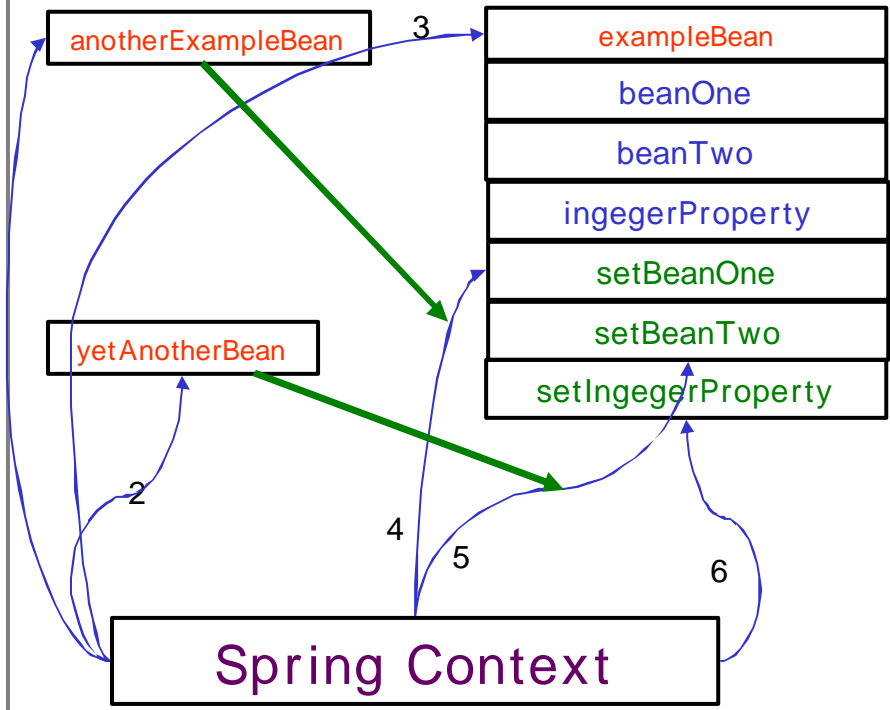


Springframework Bean Factory

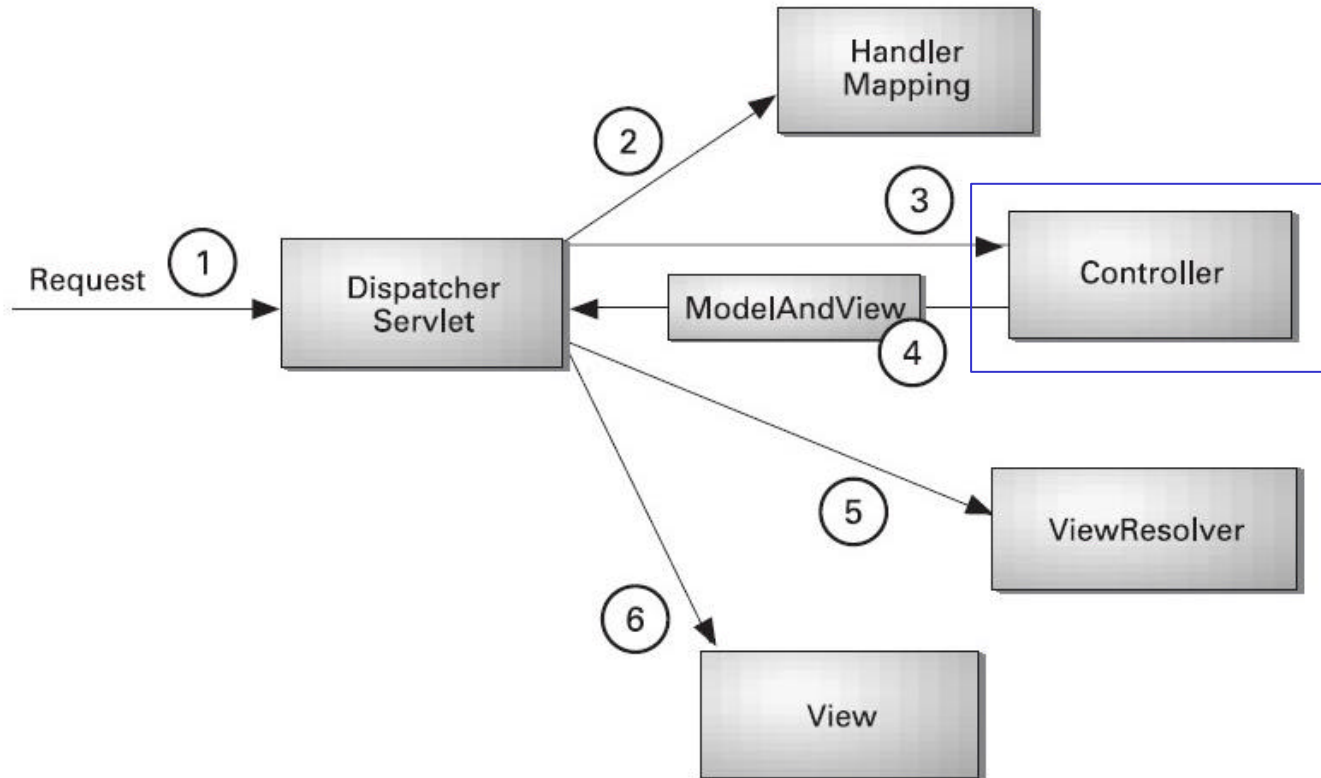
```

1 <bean id="anotherExampleBean"
  class="examples.AnotherBean"/>
2 <bean id="yetAnotherBean"
  class="examples.YetAnotherBean"/>
3 <bean id="exampleBean"
  class="examples.ExampleBean">
4   <property name="beanOne">
5     <ref bean="anotherExampleBean"/>
6   </property>
  <property name="beanTwo">
  </property>
  <property name="integerProperty">
    <value>1</value>
  </property>
</bean>

```



Spring MVC



Spring MVC

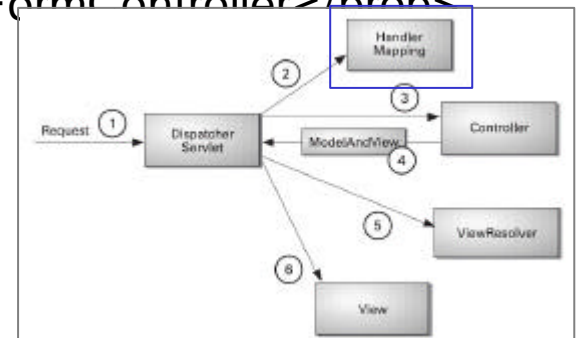
```
<context-param>
  <param-name>contextConfigLocation</param-name>
  <param-value>/WEB-INF/applicationContext*.xml</param-value>
</context-param>
<listener>
  <listener-class>
    org.springframework.web.context.ContextLoaderListener
  </listener-class>
</listener>
<servlet>
  <servlet-name>action</servlet-name>
  <servlet-class>org.springframework.web.servlet.DispatcherServlet</servlet-class>
  <load-on-startup>1</load-on-startup>
</servlet>
<servlet-mapping>
  <servlet-name>action</servlet-name>
  <url-pattern>*.do</url-pattern>
</servlet-mapping>
```

Spring MVC – Handling mapper

```

<bean id="urlMapping"
  class="org.springframework.web.servlet.handler.SimpleUrlHandlerM
  apping">
  <property name="mappings">
    <props>
      <prop key="**/*.html">staticViewController</prop>
      <prop key="/user/login.do">loginFormController</prop>
      <prop key="/user/listUser.do">userController</prop>
      <prop key="/user/viewUser.do">userController</prop>
      <prop key="/user/editUser.do">userFormController</prop>
    </props>
  </property>
</bean>

```



Spring MVC – Handling mapper

```
<bean id="userController" class="jcf.springmvc.user.web.UserController">
  <property name="methodNameResolver">
    <ref local="userControllerMethodNameResolver" />
  </property>
  <property name="userService" ref="userService" />
</bean>
<bean id="userControllerMethodNameResolver"
  class="org.springframework.web.servlet.mvc.multiaction.PropertiesMethod
  NameResolver">
  <property name="mappings">
    <props>
      <prop key="/user/ listUser.do">list</prop>
      <prop key="/user/ viewUser.do">view</prop>
    </props>
  </property>
</bean>
```

Spring MVC - Controller

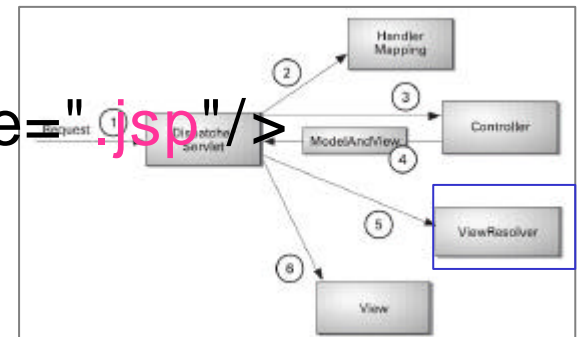
```
public ModelAndView view(HttpServletRequest request,
    HttpServletResponse response) throws Exception {
    String userId =
    RequestUtils.getRequiredStringParameter(request,
        "userId");
    return new ModelAndView(" user/view ", "user", userService
        .findUser(userId));
}
public ModelAndView list(HttpServletRequest request,
    HttpServletResponse response) throws Exception {
    return new ModelAndView(" user/list ", "userList", userService
        .findUserList());
}
```

Spring MVC – ViewResolver

```

<bean id="viewResolver"
      class="org.springframework.web.servlet.
        view.InternalResourceViewResolver">
  <property name="viewClass"
    value="org.springframework.web.servlet.view.JstlView"/>
  <property name="prefix" value="/WEB -
    INF/jsp/spring/" />
  <property name="suffix" value=".jsp" />
</bean>

```



Request Parameter Binding

```
public ModelAndView add(HttpServletRequest request,
                        HttpServletResponse response) throws
Exception {
    User command = new User();
    bind(request, command);

    userService.addUser(command);

    return dispatchView(request, response);
}
```

view – HTML Rendering

```
<form name="userForm" method="post"
  action="{pageContext.request.contextPath}/user/editUser.do">
<tr>
  <td>          </td>
  <td>
    <spring:bind path="user.userId">
      <input type="text" name="userId" value="{status.value}" />
      <span class="fieldError">{status.errorMessage}</span>
    </spring:bind>
  </td>
</tr>
```

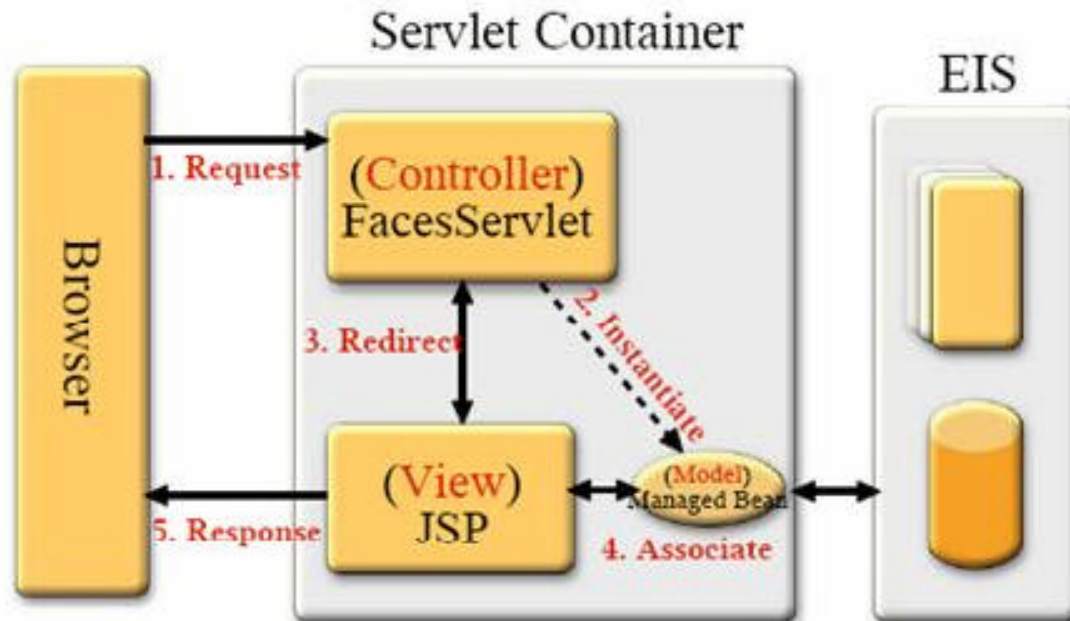
Spring MVC – Struts

Struts	Spring MVC
Action Class	Controller
strits - config.xml	action - servlet.xml
action mappings	bean definitions
forward	view
struts taglib	Spring taglib

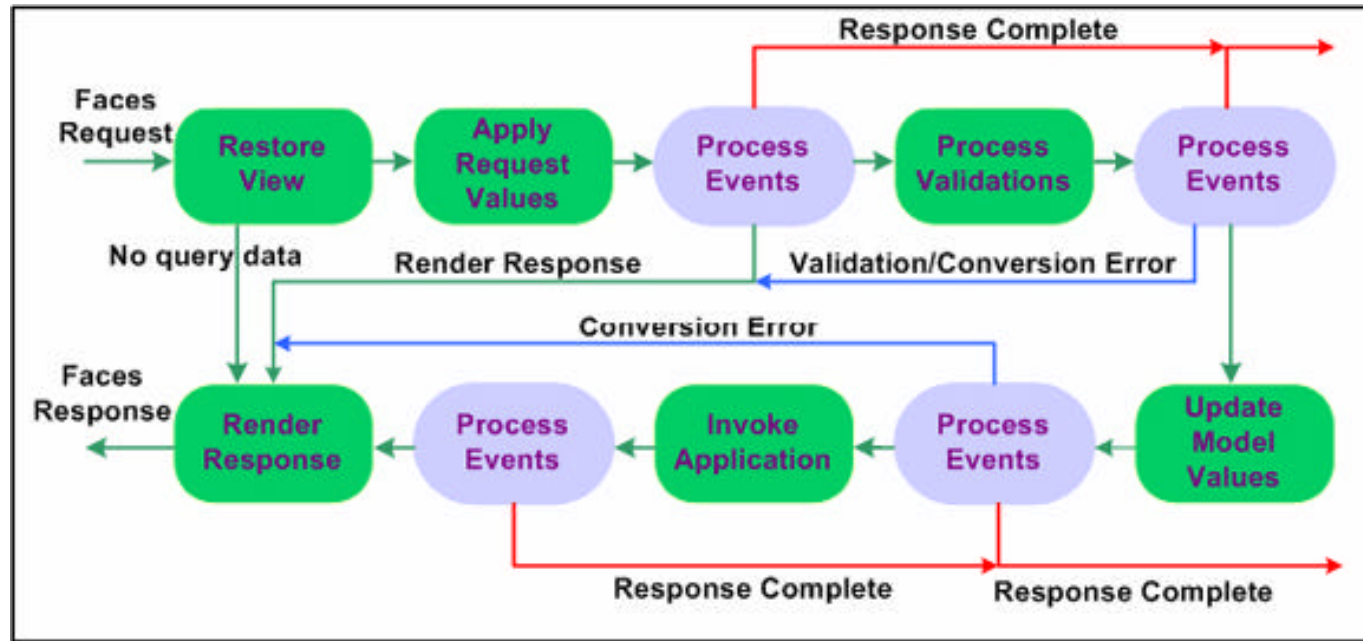
JavaServer Faces

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- Struts (??)
- Benefit
 - 가 UI UI
 - UI
 - UI
 - 가 가
 - Custom UI

JSF

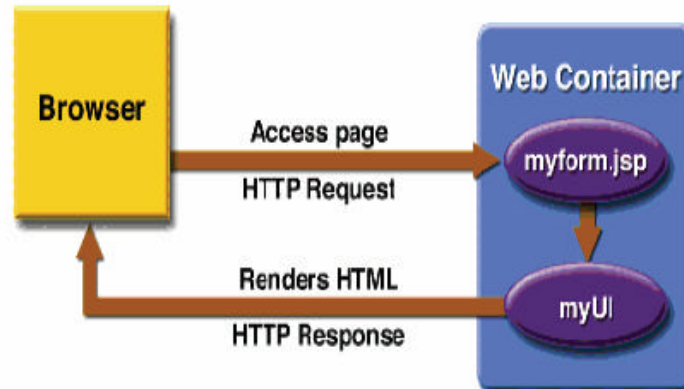


JSF Life Cycle



JSF

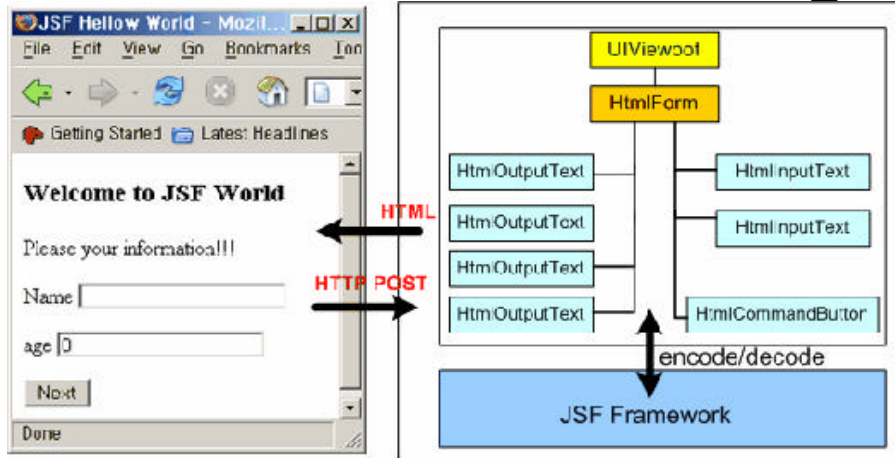
- JavaBeans
 - UIComponent hierarchy
 - >Properties
 - >Methods
 - >Events
- Event model
 - Listener classes
 - Event objects
- RenderKit



JSF web.xml

```
<?xml version='1.0' encoding='UTF-8'?>
<!DOCTYPE web-app PUBLIC "-//Sun Microsystems, Inc.//DTD Web Application
2.3//EN" "http://java.sun.com/dtd/web-app_2_3.dtd">
<web-app>
<context-param>
  <param-name>javax.faces.STATE_SAVING_METHOD</param-name>
  <param-value>client</param-value>
</context-param>
<context-param>
  <param-name>javax.faces.application.CONFIG_FILES</param-name>
  <param-value>/WEB-INF/faces-config.xml</param-value>
</context-param>
<servlet>
  <servlet-name>Faces Servlet</servlet-name>
  <servlet-class>javax.faces.webapp.FacesServlet</servlet-class>
  <load-on-startup>1</load-on-startup>
</servlet>
<servlet-mapping>
  <servlet-name>Faces Servlet</servlet-name>
  <url-pattern>/faces/*</url-pattern>
</servlet-mapping>
</web-app>
```


UI – Backing Bean



```
public class UserInfo{
    private UIInput name;
    private UIInput age;
    private UIOutput nameLabel;
    private UIOutput ageLabel;

    //getter/setter
}
```

JSF Navigation

```
<?xml version='1.0' encoding='UTF-8'?>
<faces - config>
  <navigation - rule>
    <from - view - id>/index.jsp</from - view - id>
    <navigation - case>
      <from - outcome>next</from - outcome>
      <to - view - id>/response.jsp</to - view - id>
    </navigation - case>
  </navigation - rule>

  <managed - bean>
    <managed - bean - name>userInfo</managed - bean - name>
    <managed - bean - class>sca.jsf.UserInfo</managed - bean - class>
    <managed - bean - scope>session</managed - bean - scope>
  </managed - bean>
</faces - config>
```

Index.jsp

```
<%@ taglib uri="http://java.sun.com/jsf/html" prefix="h" %>
```

```
<%@ taglib uri="http://java.sun.com/jsf/core" prefix="f" %>
```

```
<f:view>
```

```
  <f:loadBundle basename="sca.jsf.Resource" var="msg"/>
```

```
  <title><h:outputText value=" #{ msg.title }"/></title>
```

```
  <h:form>
```

```
    <h3><h:outputText value=" #{ msg.heading }"/></h3>
```

```
    <DIV><h:outputText value=" #{ msg.command }"/></DIV>
```

```
    <DIV><h:outputText value=" #{ msg.name }"/>
```

```
    <h:inputText value=" #{ userInfo.name }"/></DIV>
```

```
    <DIV><h:outputText value=" #{ msg.age }"/>
```

```
    <h:inputText value=" #{ userInfo.age }"/></DIV>
```

```
    <DIV><h:commandButton value=" #{ msg.submit }" action="next"/></DIV>
```

```
  </h:form>
```

```
</f:view>
```

response.jsp

```
<%@ taglib uri="http://java.sun.com/jsf/html" prefix="h" %>
<%@ taglib uri="http://java.sun.com/jsf/core" prefix="f" %>
<f:view>
  <f:loadBundle basename="sca.jsf.Resource" var="msg"/>
  <title><h:outputText value=" #{ msg.response}"/></title>
  <h:form>
    <h3><h:outputText value=" #{ userInfo.message}"/></h3>
    <DIV><h:commandButton value=" #{ msg.submit}"
      action="next"/></DIV>
  </h:form>
</f:view>
```

Custom Converter

faces-config.xml custom Converter

```
<converter>  
  <converter -id> sca.ConvrterUser </converte>  
  <converter -class> sca.ConvrterUser </converter -class>  
</converter>
```

* JSF

```
<h:inputText id="name" value="{userInfo.name}" required="true"/>  
  <h:converter convertId="sca.ConvrterUser" />  
</h:inputText>  
<h:message for="name" />
```

Validator

Validator

```
<h:inputText id="name" value="#{userInfo.name}" required="true"/>
  <h:validateLength minimum="13" />
</h:inputText>
<h:message for="name" />
```

Validator

faces-config.xml

```
<validator>
  <validator -id>sca.UserId</validator>
  <validator -class>sca.UserId</validator -class>
</validator>
```

JSF

```
<h:inputText id="name" value="#{userInfo.name}" required="true"/>
  <h:validator validatorId="sca.UserId" />
</h:inputText>
<h:message for="name" />
```

```
<h:commandButton type="submit" value="Login" actionListener="#{loginForm.login}"/>
<h:inputText value="#{userInfo.age}"
  valueChangeListener="#{loginForm.changedValue}"/>
```

```
<h:commandButton type="submit" value="Login">
  <f:actionListener type="sca.LoginActionListener" />
</h:commandButton>
<h:inputText value="#{userInfo.age}">
  <f:valueChangeListener type="sca.LoginValueChangedListener" />
</h:inputText>
```

```
<faces -config>
  <lifecycle>
    <phase -listener>sca.PhaseListener</phase -listener>
  </lifecycle>
</faces -config>
```

Framework Lock - In



QnA