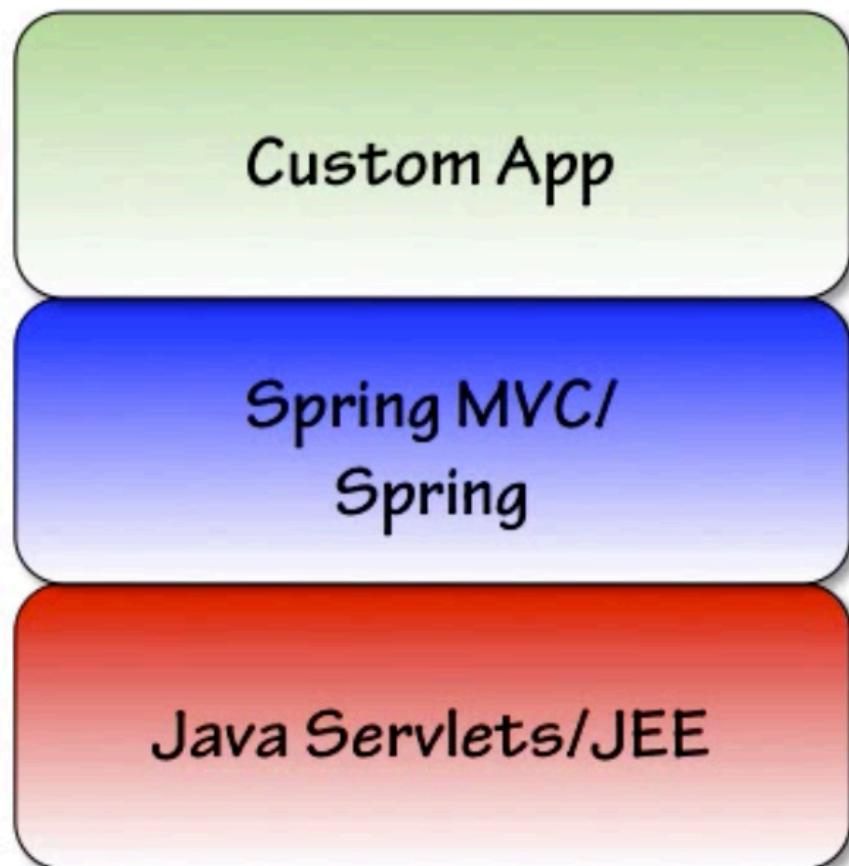


Spring MVC

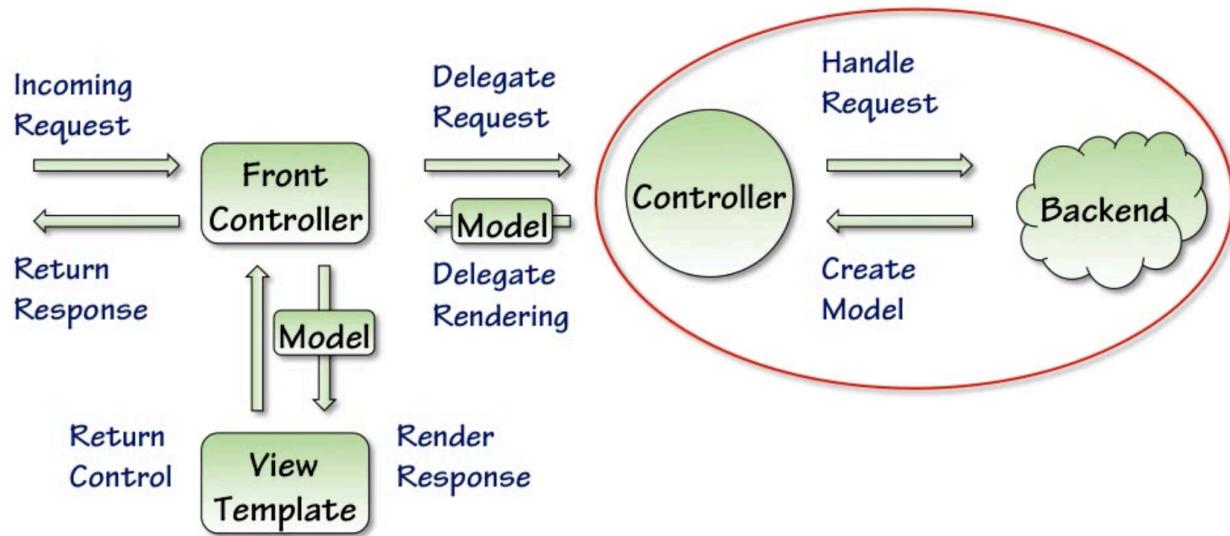
Friday, May 20, 2016 10:12 PM

Dispatcher Servlet - Front Controller Pattern - Model View Controller

Architecture



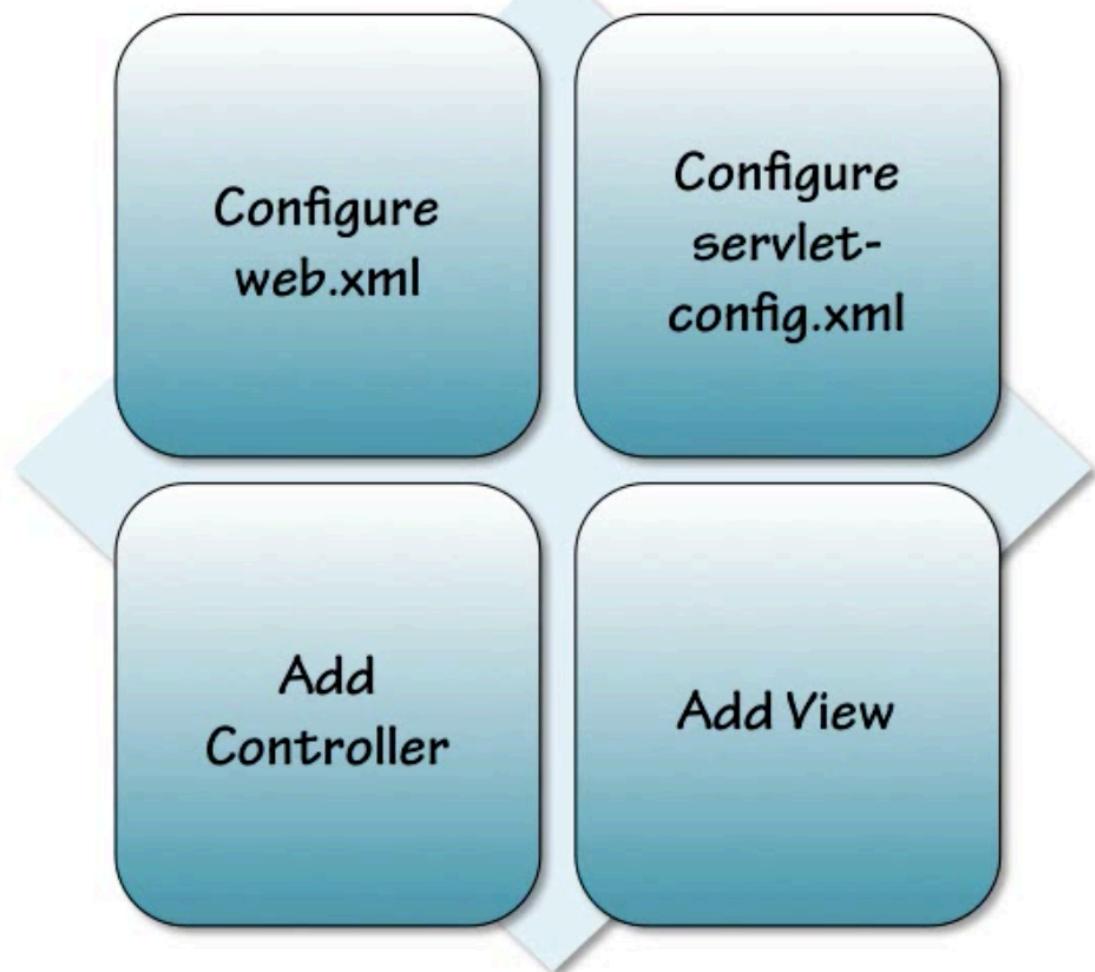
Request / Response Lifecycle



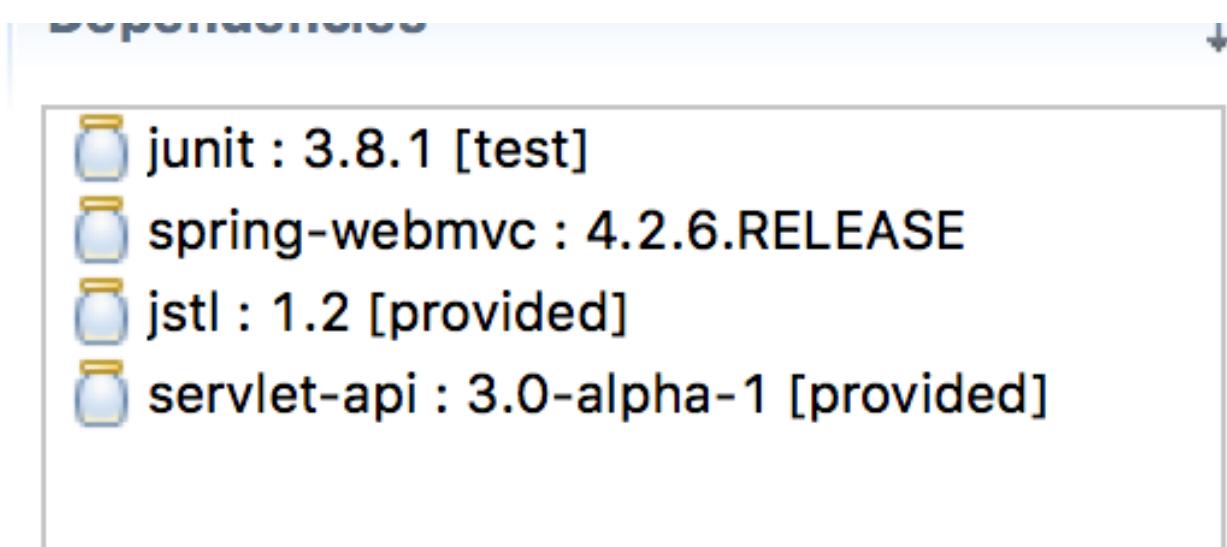
Vocabulary

- **DispatcherServlet** – The entry / configuration point for the Application
- **Controller** – Command pattern object that handles the request and determines which view to route to
- **RequestMapping** – The url and request type that a method is tied to
- **ViewResolver** – Used to locate JSP pages or whatever view we are using
- **Servlet-config** – Configuration file per DispatcherServlet

Spring MVC Configuration

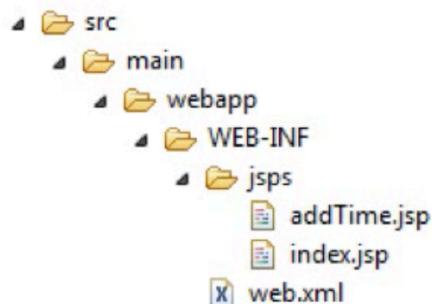


Maven Dependencies:



Standards

Views



InternalResourceViewResolver

addTime.jsp = <http://localhost:8080/fitness/addTime>

Steps:

- 1) Create web.xml to configure dispatcher Servlet and specify the location of the servlet-config.xml

- a. Dispatcher Servlet

```
<?xml version="1.0" encoding="UTF-8"?>
<web-app id="WebApp_ID" version="2.4"
  xmlns="http://java.sun.com/xml/ns/j2ee"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://java.sun.com/xml/ns/j2ee/web-app_2_4.xsd">
  <display-name>Archetype Created Web Application</display-name>
  <!-- The front controller of this Spring Web application, responsible for handling all application requests -->
  <servlet>
    <servlet-name>fitTrackerServlet</servlet-name>
    <servlet-class>org.springframework.web.servlet.DispatcherServlet</servlet-class>
    <init-param>
      <param-name>contextConfigLocation</param-name>
      <param-value>/WEB-INF/config/servlet-config.xml</param-value>
    </init-param>
    <load-on-startup>1</load-on-startup>
  </servlet>
  <!-- Map all requests to the DispatcherServlet for handling -->
  <servlet-mapping>
    <servlet-name>fitTrackerServlet</servlet-name>
    <url-pattern>*.html</url-pattern>
  </servlet-mapping>
</web-app>
```

- 2) Create servlet-config.xml (Spring Bean Configuration File)

: Enable Annotations

- i. Define Annotations
- ii. Enable Component Scan
- iii. Configure View Resolver

```
<?xml version="1.0" encoding="UTF-8"?>
<beans xmlns="http://www.springframework.org/schema/beans"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns:context="http://www.springframework.org/schema/context"
    xmlns:mvc="http://www.springframework.org/schema/mvc"
    xmlns:p="http://www.springframework.org/schema/p"
    xsi:schemaLocation="http://www.springframework.org/schema/mvc http://www.springframework.org/schema/mvc/spring-mvc-4.2.xsd
        http://www.springframework.org/schema/beans http://www.springframework.org/schema/beans/spring-beans.xsd
        http://www.springframework.org/schema/context http://www.springframework.org/schema/context/spring-context-4.2.xsd">

    <mvc:annotation-driven/>

    <context:component-scan base-package="info.javagrasp.controller"></context:component-scan>

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

</beans>
```

We have used InternalResourceViewResolver but following are the available View Resolvers:

View Resolvers (some)

BeanNameViewResolver

ContentNegotiatingViewResolver

FreeMarkerViewResolver

InternalResourceViewResolver

JasperReportsViewResolver

ResourceBundleViewResolver

TilesViewResolver

UrlBasedViewResolver

Creating JSP:

- 1) Import the Tag library

```
<%@ taglib prefix="form"
uri="http://www.springframework.org/tags/form" %>
```

- 2) Then go to the controller that is rendering to this JSP and set the MODEL attribute,

```
package info.javagrasp.controller;

import org.springframework.stereotype.Controller;
import org.springframework.web.bind.annotation.ModelAttribute;
import org.springframework.web.bind.annotation.RequestMapping;

import info.javagrasp.model.Exercise;

@Controller
public class MinutesController {

    @RequestMapping(value="/addMinutes")
    public String addMinutes(@ModelAttribute("exercise") Exercise exercise){
        System.out.println("exercise: " + exercise.getMinutes());
        return "addMinutes";
    }
}
```

- 3) Set the same name specified within parenthesis inside the <FORM:FORM>tag as a value for the command property

```
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<%@ taglib prefix="form" uri="http://www.springframework.org/tags/form" %>
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
        <title>Insert title here</title>
    </head>
    <body>
        <h1>Add Minutes Exercised</h1>
        <form:form commandName="exercise">
```

```

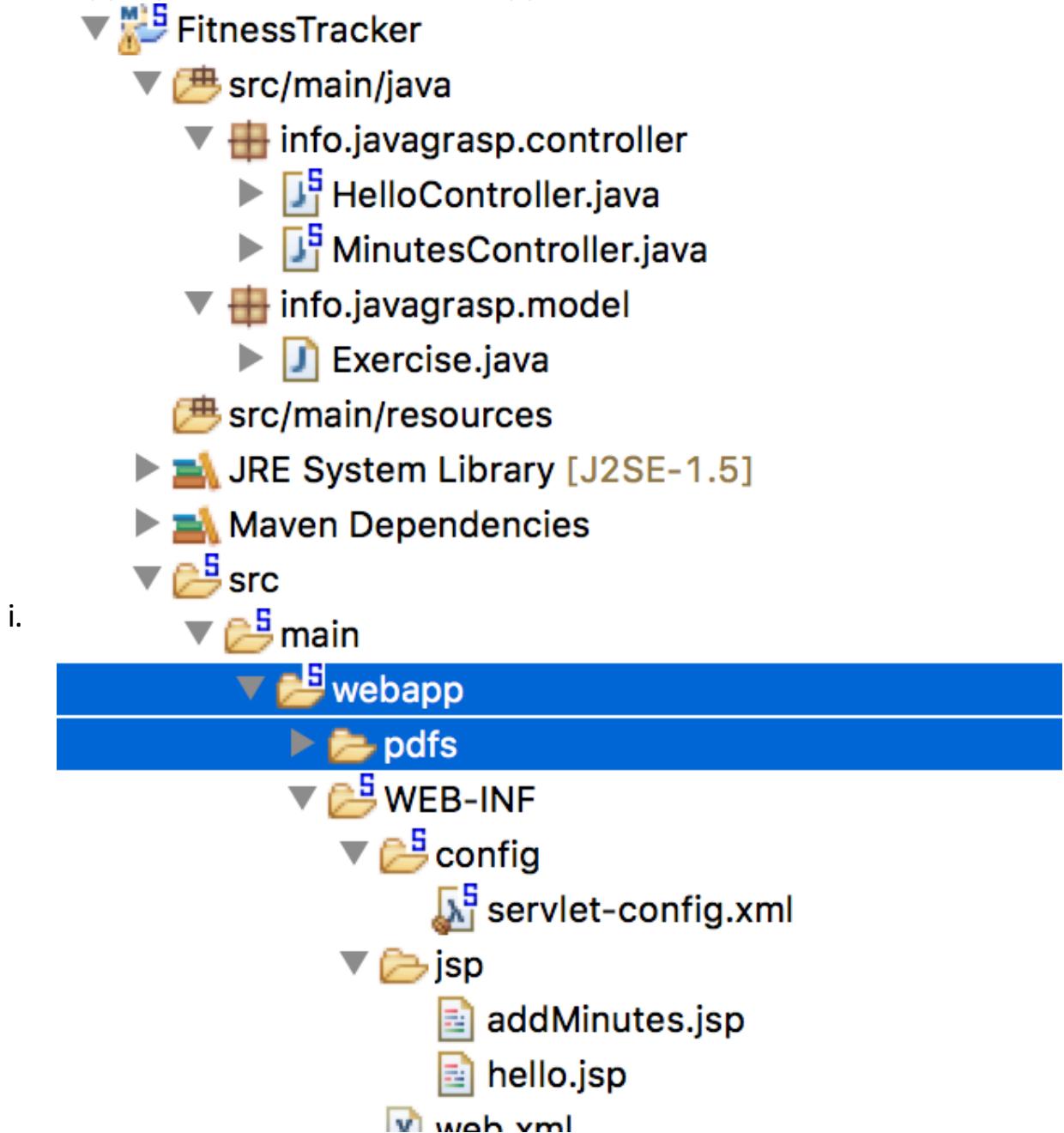
@ <table>
@ <tr>
<td>Minutes Exercised For Today</td>
<td> <form:input path="minutes"/>
</tr>
@ <tr>
<td colspan="2"><input type="submit" value="Enter Exercise"></td>
</tr>
</table>

</form:form>
</body>
</html>

```

To load static files:

- 1) Create appropriate folders under webapps folder





ii. Update the web.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<web-app id="WebApp_ID" version="2.4"
  xmlns="http://java.sun.com/xml/ns/j2ee"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://java.sun.com/xml/ns/j2ee
  http://java.sun.com/xml/ns/j2ee/web-app_2_4.xsd">
  <display-name>Archetype Created Web Application</display-name>
  <!-- The front controller of this Spring Web application, responsible for handling all application requests -->
  <servlet>
    <servlet-name>fitTrackerServlet</servlet-name>
    <servlet-class>org.springframework.web.servlet.DispatcherServlet</servlet-class>
    <init-param>
      <param-name>contextConfigLocation</param-name>
      <param-value>/WEB-INF/config/servlet-config.xml</param-value>
    </init-param>
    <load-on-startup>1</load-on-startup>
  </servlet>
  <!-- Map all requests to the DispatcherServlet for handling -->
  <servlet-mapping>
    <servlet-name>fitTrackerServlet</servlet-name>
    <url-pattern>*.html</url-pattern>
  </servlet-mapping>
  <servlet-mapping>
    <servlet-name>fitTrackerServlet</servlet-name>
    <url-pattern>/pdfs/**</url-pattern>
  </servlet-mapping>
</web-app>
```

iii. Update the servlet-config.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<beans xmlns="http://www.springframework.org/schema/beans"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:context="http://www.springframework.org/schema/context"
  xmlns:mvc="http://www.springframework.org/schema/mvc"
  xmlns:p="http://www.springframework.org/schema/p"
  xsi:schemaLocation="http://www.springframework.org/schema/mvc http://www.springframework.org/schema/mvc
  http://www.springframework.org/schema/beans http://www.springframework.org/schema/beans/spring-beans-2.5.xsd
  http://www.springframework.org/schema/context http://www.springframework.org/schema/context/spring-context-2.5.xsd">
  <mvc:annotation-driven/>
  <context:component-scan base-package="info.javagrasp.controller"></context:component-scan>
  <bean class="org.springframework.web.servlet.view.InternalResourceViewResolver">
    <property name="prefix" value="/WEB-INF/jsp/"/>
    <property name="suffix" value=".jsp"/>
  </bean>
  <mvc:resources location="pdfs" mapping="/pdfs/**"></mvc:resources>
</beans>
```

Tag Libraries:

Spring Tag Libraries

spring.tld

spring-form.tld

<http://static.springsource.org/spring/docs/current/spring-framework-reference/html/spring.tld.html>

<http://static.springsource.org/spring/docs/current/spring-framework-reference/html/spring-form.tld.html>

spring.tld

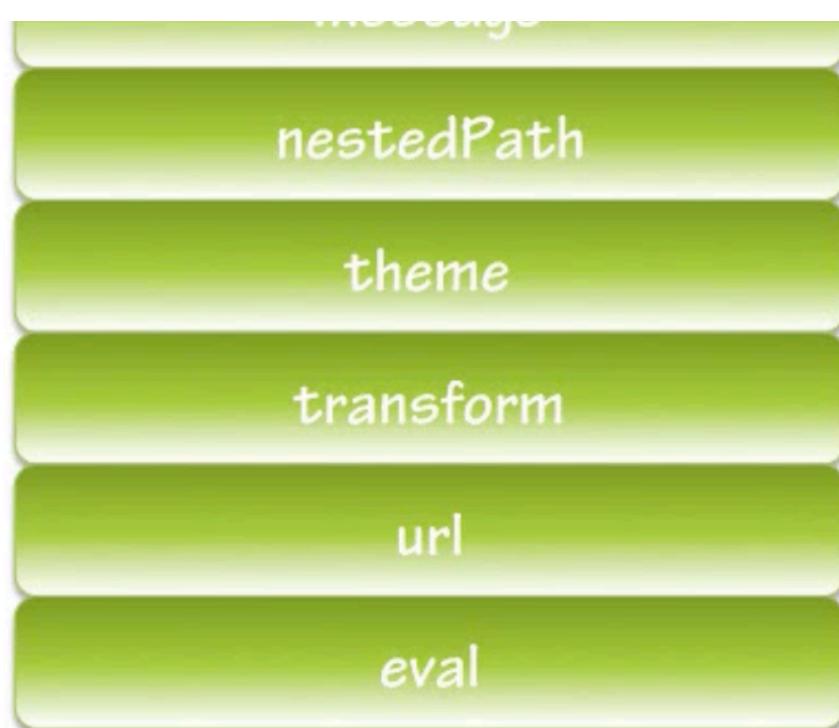
bind

escapeBody

hasBindErrors

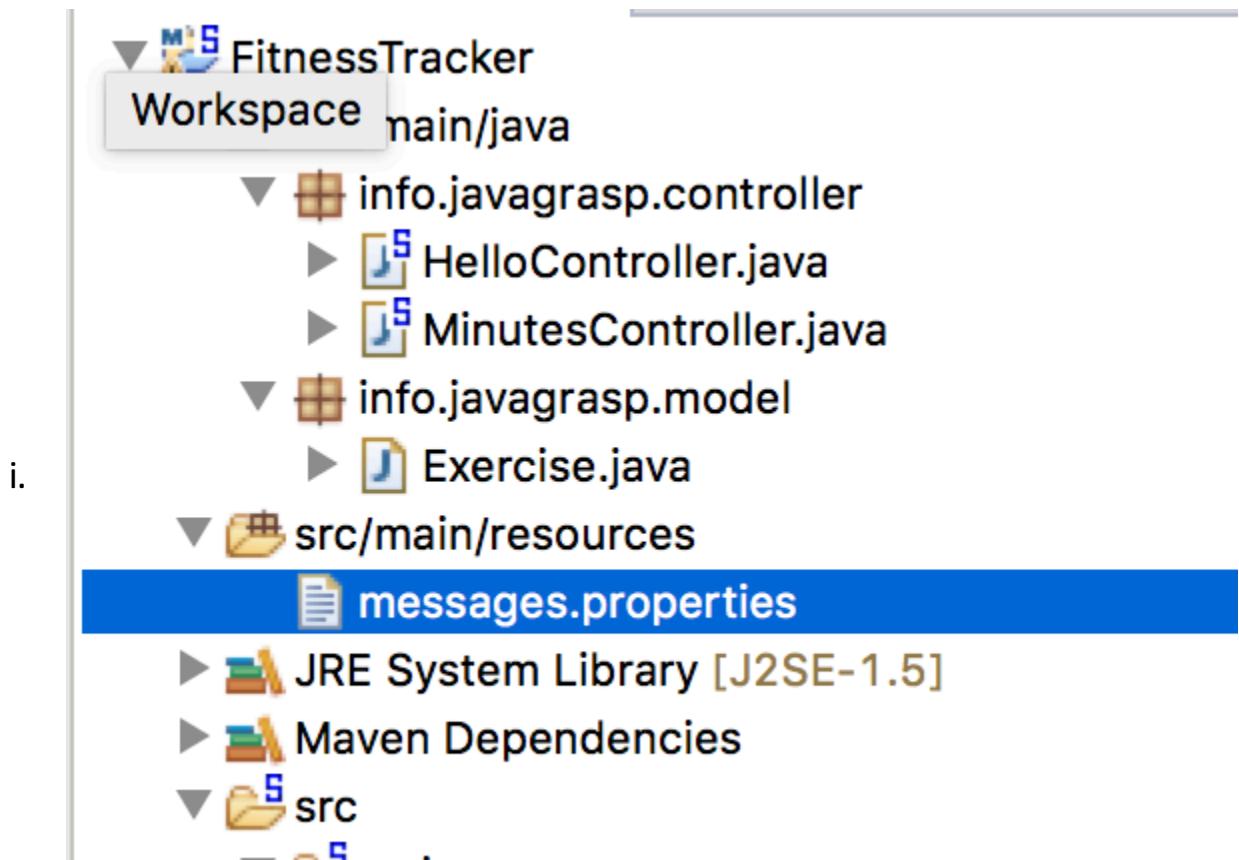
htmlEscape

message



How to add messages.properties:

- 1) Add message.properties under resources folder





- 2) In the servlet-config.xml

```
<!-- Resource Bundle (messages specifies the file name , it can be anything) -->
<bean id="messageSource" class="org.springframework.context.support.ResourceBundleMessageSource">
<property name="basename" value="messages"></property>
</bean>
```

- 3) In jsp in order to use it download the Spring tld

```
<%@ taglib prefix="spring" uri="http://www.springframework.org/tags" %>
```

- 4) Use it like below,

```
<tr>
<td><spring:message code="goal.text"></spring:message></td>
```

spring-form.tld (some)

checkbox

checkboxes

errors

form

hidden

input

label

option

password

select