Assisted Practice 2:

Default and Custom Event Handling

Pom.xml:

```xml
<?xml version="1.0" encoding="UTF-8"?>

<project xmlns="http://maven.apache.org/POM/4.0.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
http://maven.apache.org/xsd/maven-4.0.0.xsd">
  <modelVersion>4.0.0</modelVersion>

  <groupId>com</groupId>
  <artifactId>SpringSetup2</artifactId>
  <version>0.0.1-SNAPSHOT</version>
  <packaging>war</packaging>

  <name>SpringSetup2 Maven Webapp</name>
  <!-- FIXME change it to the project's website -->
  <url>http://www.example.com</url>

  <properties>
    <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
    <maven.compiler.source>1.7</maven.compiler.source>
    <maven.compiler.target>1.7</maven.compiler.target>
  </properties>

  <dependencies>
    <dependency>
      <groupId>junit</groupId>
      <artifactId>junit</artifactId>
      <version>4.11</version>
      <scope>test</scope>
    </dependency>
  </dependencies>

  <build>
    <finalName>SpringSetup2</finalName>
    <pluginManagement><!-- lock down plugins versions to avoid using Maven defaults
(may be moved to parent pom) -->
      <plugins>
        <plugin>
          <artifactId>maven-clean-plugin</artifactId>
          <version>3.1.0</version>
        </plugin>
        <!-- see http://maven.apache.org/ref/current/maven-core/default-
bindings.html#Plugin_bindings_for_war_packaging -->
        <plugin>
          <artifactId>maven-resources-plugin</artifactId>
          <version>3.0.2</version>
        </plugin>
```

```xml
        <plugin>
          <artifactId>maven-compiler-plugin</artifactId>
          <version>3.8.0</version>
        </plugin>
        <plugin>
          <artifactId>maven-surefire-plugin</artifactId>
          <version>2.22.1</version>
        </plugin>
        <plugin>
          <artifactId>maven-war-plugin</artifactId>
          <version>3.2.2</version>
        </plugin>
        <plugin>
          <artifactId>maven-install-plugin</artifactId>
          <version>2.5.2</version>
        </plugin>
        <plugin>
          <artifactId>maven-deploy-plugin</artifactId>
          <version>2.8.2</version>
        </plugin>
      </plugins>
    </pluginManagement>
  </build>
</project>
```

StartEventHandler:

```java
package com.ecommerce.beans;

import org.springframework.context.ApplicationListener;
import org.springframework.context.event.ContextStartedEvent;

public class StartEventHandler implements ApplicationListener<ContextStartedEvent>{

        public void onApplicationEvent(ContextStartedEvent event) {
            System.out.println("ContextStartedEvent Received");
        }
}
```

StopEventHandler:

```java
package com.ecommerce.beans;

import org.springframework.context.ApplicationListener;
import org.springframework.context.event.ContextStoppedEvent;


public class StopEventHandler implements ApplicationListener<ContextStoppedEvent>{

        public void onApplicationEvent(ContextStoppedEvent event) {
            System.out.println("ContextStoppedEvent Received");
        }
}
```

CustomEvent:

```java
package com.ecommerce.beans;

import org.springframework.context.ApplicationEvent;

public class CustomEvent extends ApplicationEvent{

    public CustomEvent(Object source) {
        super(source);
    }
    public String toString(){
        return "This is a custom event";
    }
}
```

CustomEventPublisher:

```java
package com.ecommerce.beans;

import org.springframework.context.ApplicationEventPublisher;
import org.springframework.context.ApplicationEventPublisherAware;

public class CustomEventPublisher implements ApplicationEventPublisherAware {
    private ApplicationEventPublisher publisher;

    public void setApplicationEventPublisher (ApplicationEventPublisher publisher) {
        this.publisher = publisher;
    }
    public void publish() {
        CustomEvent ce = new CustomEvent(this);
        publisher.publishEvent(ce);
    }
}
```

CustomEventListener:

```java
package com.ecommerce;

import org.springframework.context.ApplicationListener;

public class CustomEventListener implements ApplicationListener<CustomEvent> {

    public void onApplicationEvent(CustomEvent event) {
        System.out.println(event.toString());
    }
}
```

MainContoller:

```java
package com.ecommerce.controller;

import org.apache.log4j.Logger;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Controller;
import org.springframework.ui.ModelMap;
import org.springframework.validation.BindingResult;
import org.springframework.web.bind.annotation.ModelAttribute;
import org.springframework.web.bind.annotation.PathVariable;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RequestMethod;
import org.springframework.web.bind.annotation.RequestParam;

import org.springframework.context.ApplicationContext;
import org.springframework.context.support.ClassPathXmlApplicationContext;



@Controller
public class MainController {



        @RequestMapping(value = "/customevent", method = RequestMethod.GET)
         public String customEvent(ModelMap map)
        {
                String confFile = "main-servlet.xml";
             ApplicationContext context = new
ClassPathXmlApplicationContext(confFile);
             CustomEventPublisher cvp =
                    (CustomEventPublisher)
context.getBean("customEventPublisher");

              cvp.publish();
              cvp.publish();
            return "customEvent";
        }

}
```

Main-servlet.xml:

```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:aop="http://www.springframework.org/schema/aop"
    xmlns:context="http://www.springframework.org/schema/context"
    xmlns:jee="http://www.springframework.org/schema/jee"
    xmlns:lang="http://www.springframework.org/schema/lang"
    xmlns:p="http://www.springframework.org/schema/p"
    xmlns:tx="http://www.springframework.org/schema/tx"
    xmlns:util="http://www.springframework.org/schema/util"
    xsi:schemaLocation="http://www.springframework.org/schema/beans
```

```xml
              http://www.springframework.org/schema/beans/spring-beans-2.5.xsd
              http://www.springframework.org/schema/aop
              http://www.springframework.org/schema/aop/spring-aop-2.5.xsd
              http://www.springframework.org/schema/context
              http://www.springframework.org/schema/context/spring-context-2.5.xsd
              http://www.springframework.org/schema/tx
              http://www.springframework.org/schema/tx/spring-tx-2.5.xsd">
    <context:annotation-config />
    <context:component-scan base-package="com.ecommerce.controller" />
    <bean id="jspViewResolver"
        class="org.springframework.web.servlet.view.InternalResourceViewResolver">
        <property name="viewClass"
            value="org.springframework.web.servlet.view.JstlView"></property>
        <property name="prefix" value="/WEB-INF/view/"></property>
        <property name="suffix" value=".jsp"></property>
    </bean>
    <bean id="messageSource"

class="org.springframework.context.support.ReloadableResourceBundleMessageSource">
        <property name="basename" value="classpath:messages"></property>
        <property name="defaultEncoding" value="UTF-8"></property>
    </bean>


    <bean id = "startEventHandler" class = "com.ecommerce.beans.StartEventHandler"/>
   <bean id = "stopEventHandler" class = "com.ecommerce.beans.StopEventHandler"/>

    <bean id = "customEventListener" class =
"com.ecommerce.beans.CustomEventListener"/>
    <bean id = "customEventPublisher" class =
"com.ecommerce.beans.CustomEventPublisher"/>

    <tx:annotation-driven />

</beans>
```

Index.jsp:

```html
<html>
<body>
<h2>Spring Application</h2>

<a href="customevent">Custom Event Handling</a>
</body>
</html>
```


CustomEvent.jsp:

```jsp
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html>
```

```html
<html>
<head>
<meta charset="UTF-8">
<title>Custom Event</title>
</head>
<body>
    Custom Event has been generated in the Java Console.
</body>
</html>
```

Web.xml:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<web-app xmlns="http://java.sun.com/xml/ns/javaee"
version="2.5"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://java.sun.com/xml/ns/javaee
http://java.sun.com/xml/ns/javaee/web-app_2_5.xsd">

  <display-name>Archetype Created Web Application</display-name>

    <welcome-file-list>
        <welcome-file>/WEB-INF/view/index.jsp</welcome-file>
    </welcome-file-list>
    <servlet>
        <servlet-name>main</servlet-name>
        <servlet-class>
            org.springframework.web.servlet.DispatcherServlet
        </servlet-class>
        <load-on-startup>1</load-on-startup>
    </servlet>
    <servlet-mapping>
        <servlet-name>main</servlet-name>
        <url-pattern>/</url-pattern>
    </servlet-mapping>
    <context-param>
        <param-name>contextConfigLocation</param-name>
        <param-value>/WEB-INF/main-servlet.xml</param-value>
    </context-param>
    <listener>
        <listener-
class>org.springframework.web.context.ContextLoaderListener</listener-class>
    </listener>
</web-app>
```