

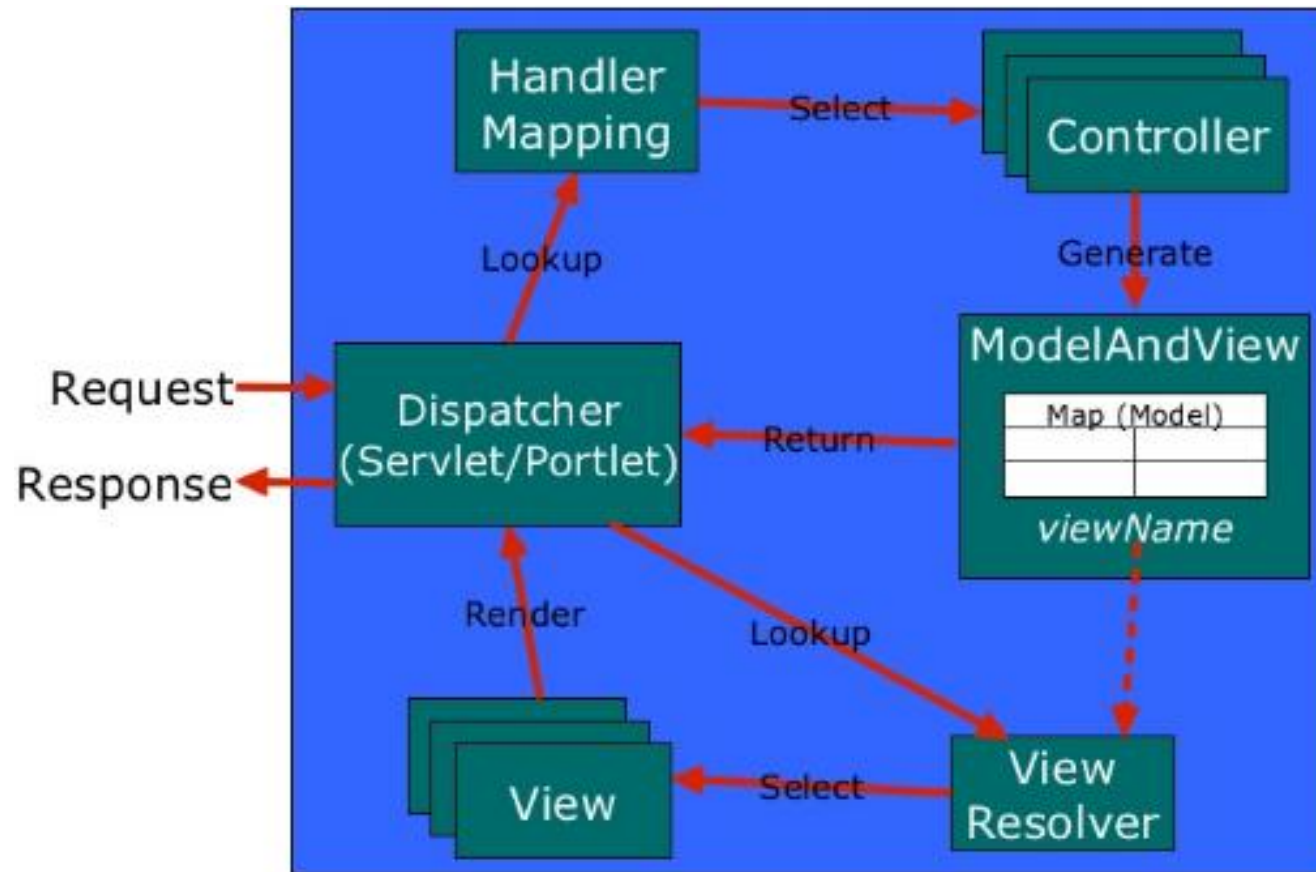
Spring Project

Spring MVC

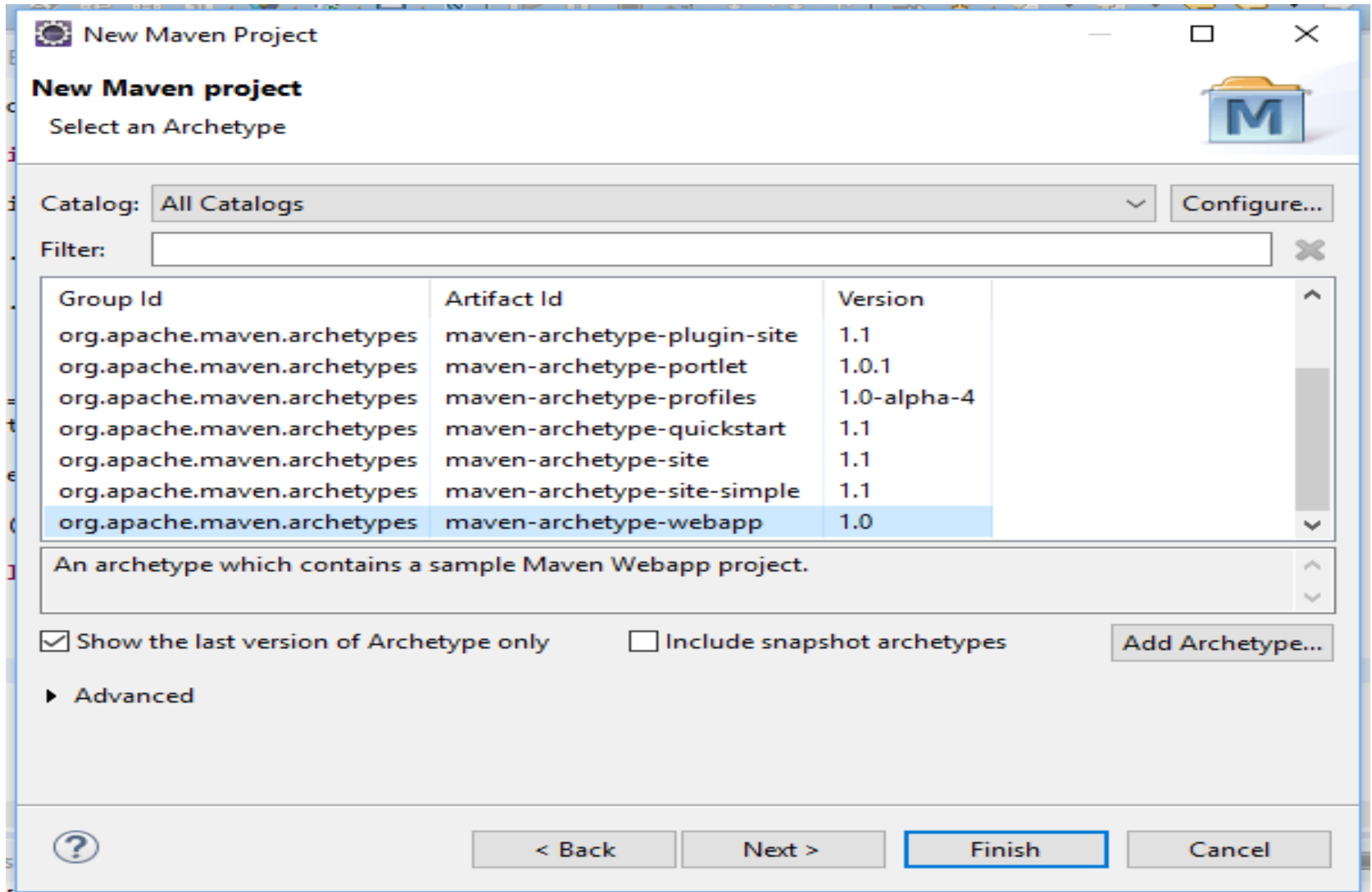
Steps

- Create Maven project - web project
- Add Spring Dependencies in POM xml file
- Configure web.xml
- dispatcher-servlet.xml (Front Controller)
- Create Login Page (Spring Form)
- Create Controller (Project Specific)

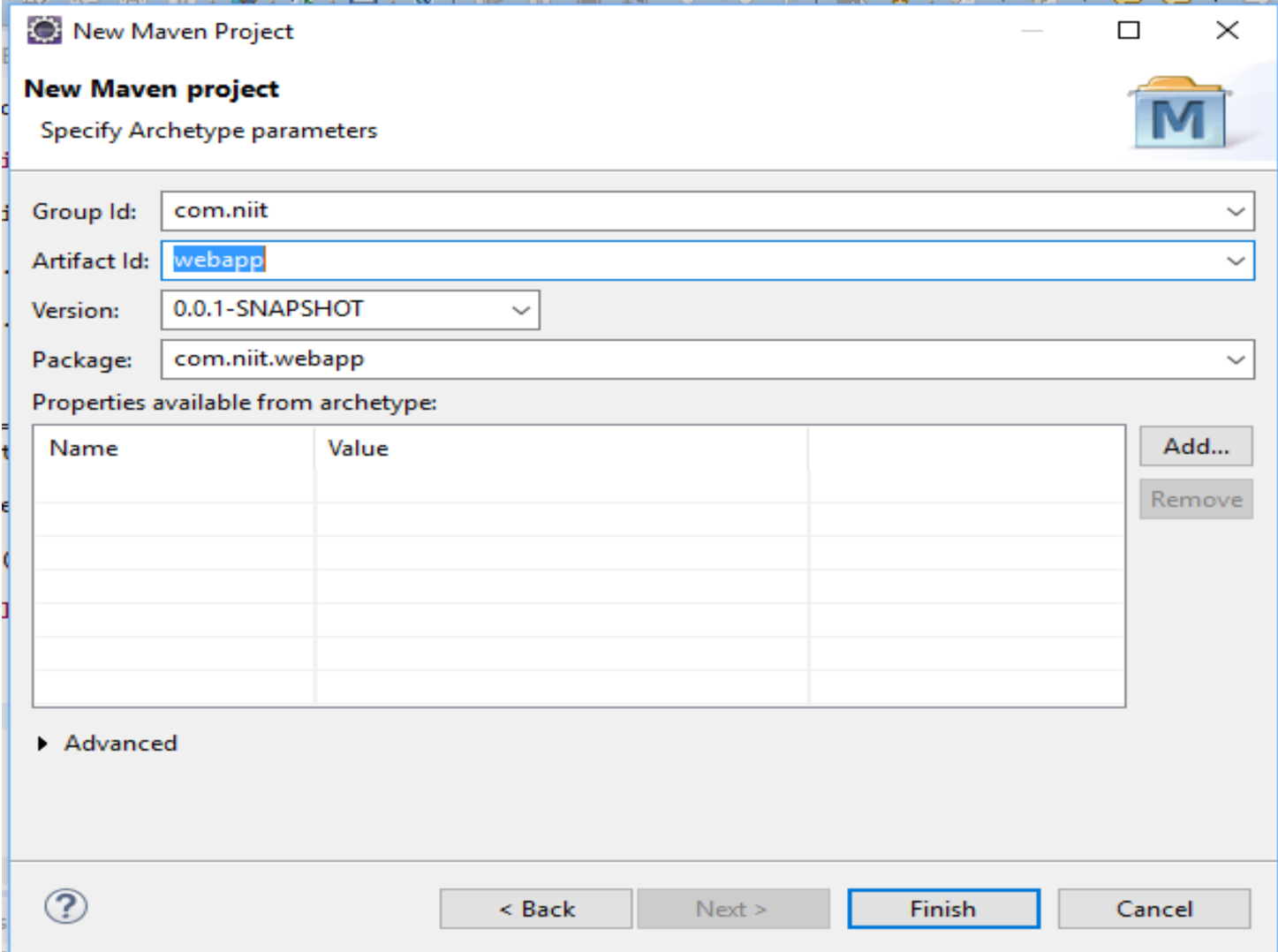
Spring MVC Architecture



Create New Maven project



Provide Group ID and Artifact id



New Maven Project

Specify Archetype parameters

Group Id:

Artifact Id:

Version:

















Package:

Properties available from archetype:

Name	Value

► Advanced

Project Structure

- ▼  webapp
 - >  Deployment Descriptor: Archetype Created Web Application
 - ▼  Java Resources
 -  src/main/resources
 - >  Libraries
 - >  JavaScript Resources
 - >  Deployed Resources
 - ▼  src
 - ▼  main
 -  resources
 - ▼  webapp
 - ▼  WEB-INF
 -  web.xml
 -  index.jsp
 - >  target
 -  pom.xml

POM.xml

```
<properties>
  <spring.version>4.3.0.RELEASE</spring.version>
</properties>

<dependencies>
  <dependency>
    <groupId>org.springframework</groupId>
    <artifactId>spring-core</artifactId>
    <version>${spring.version}</version>
  </dependency>
  <dependency>
    <groupId>org.springframework</groupId>
    <artifactId>spring-web</artifactId>
    <version>${spring.version}</version>
  </dependency>
  <dependency>
    <groupId>org.springframework</groupId>
    <artifactId>spring-webmvc</artifactId>
    <version>${spring.version}</version>
  </dependency>
</dependencies>
<build>
  <finalName>webapp</finalName>
</build>
```

Configuration

- XML Based Configuration
 - Web.xml
 - Dispatcher-servlet.xml
- Java Based Configuration

XML Based Configuration

Web.xml

```
<web-app>
  <display-name>Archetype Created Web Application</display-name>

  <servlet>
    <servlet-name>dispatcher</servlet-name>
    <servlet-class>org.springframework.web.servlet.DispatcherServlet</servlet-class>
    <load-on-startup>1</load-on-startup>
  </servlet>

  <servlet-mapping>
    <servlet-name>dispatcher</servlet-name> ←
    <url-pattern>/</url-pattern>
  </servlet-mapping>

  <context-param>
    <param-name>contextConfigLocation</param-name>
    <param-value>/WEB-INF/dispatcher-servlet.xml</param-value>
  </context-param>


  <listener>
    <listener-class>org.springframework.web.context.ContextLoaderListener</listener-class>
  </listener>

</web-app>
```

XML Based Configuration

dispatcher-servlet.xml

```
<beans xmlns="http://www.springframework.org/schema/beans"
  xmlns:context="http://www.springframework.org/schema/context"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="
    http://www.springframework.org/schema/beans
    http://www.springframework.org/schema/beans/spring-beans-3.0.xsd
    http://www.springframework.org/schema/context
    http://www.springframework.org/schema/context/spring-context-3.0.xsd">

  <context:component-scan base-package="com.niit.*" /> 

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

Java Based Configuration

Web.xml(WebInitializer)

```
public class WebInitializer implements WebApplicationInitializer {  
  
    public void onStartUp(ServletContext servletContext) throws ServletException {  
  
        AnnotationConfigWebApplicationContext ctx = new AnnotationConfigWebApplicationContext();  
        ctx.register(Config.class);  
  
        ctx.setServletContext(servletContext);  
  
        Dynamic servlet = servletContext.addServlet("dispatcher", new DispatcherServlet(ctx));  
        servlet.addMapping("/");  
        servlet.setLoadOnStartup(1);  
  
    }  
}
```

}

<http://docs.spring.io/spring/docs/current/javadoc-api/org/springframework/web/WebApplicationInitializer.html>

Java Based Configuration

dispatcher-servlet.xml

```
@Configuration
@EnableWebMvc
@ComponentScan(basePackages = "com.niit")
public class AppConfig extends WebMvcConfigurerAdapter {

    @Bean
    public ViewResolver viewResolver() {

        InternalResourceViewResolver viewResolver = new InternalResourceViewResolver();
        viewResolver.setViewClass(JstlView.class);
        viewResolver.setPrefix("/WEB-INF/views/");
        viewResolver.setSuffix(".html");

        return viewResolver;
    }

    @Override
    public void configureDefaultServletHandling(DefaultServletHandlerConfigurer configurer) {

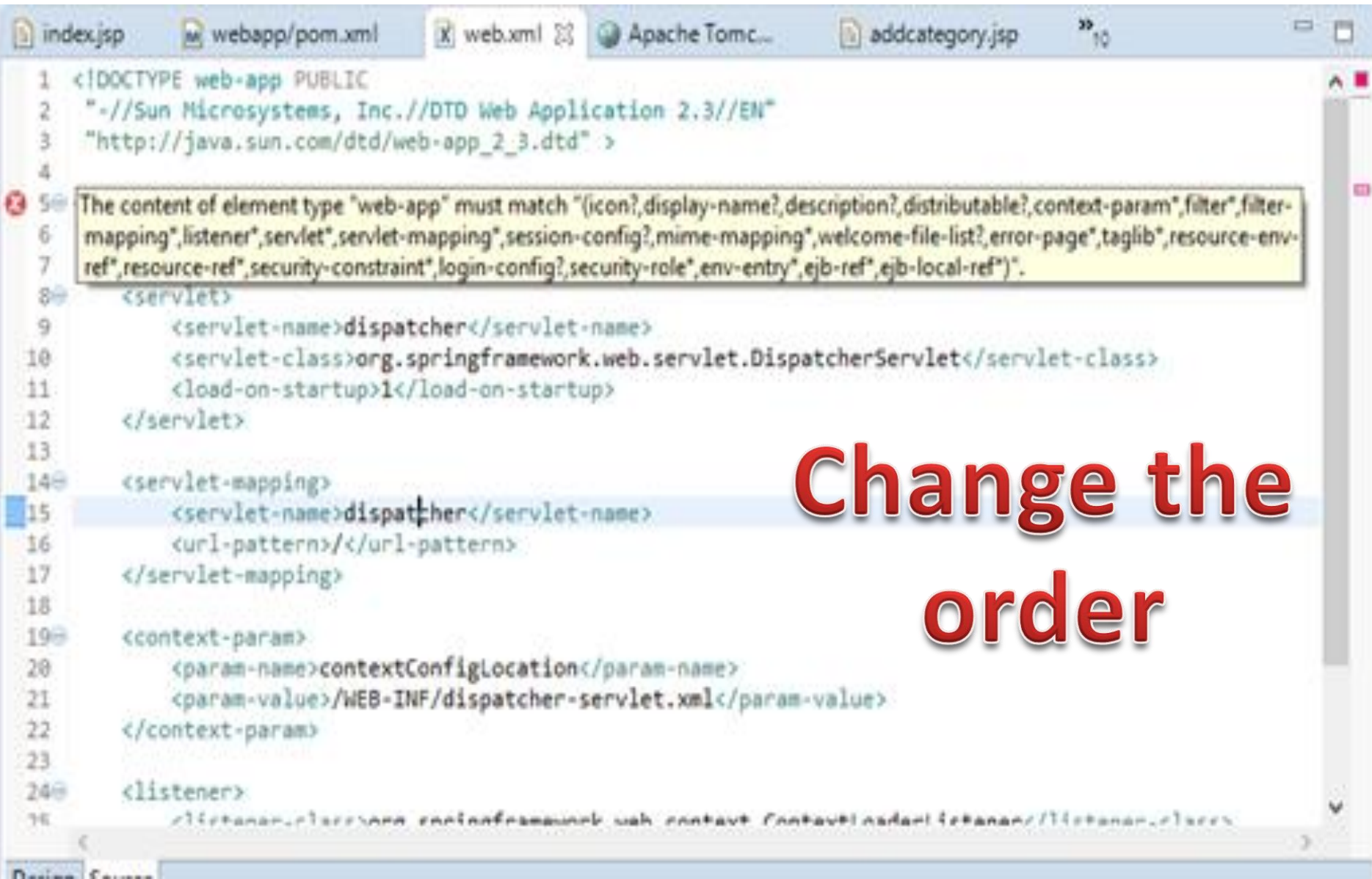
        configurer.enable();
    }

}
```

Getting Errors on pages?

```
<!-- http://mvnrepository.com/artifact/javax.servlet/servlet-api -->
<dependency>
  <groupId>javax.servlet</groupId>
  <artifactId>servlet-api</artifactId>
  <version>3.0-alpha-1</version>
</dependency>
```

Error in web.xml?



The screenshot shows an IDE window with the following tabs: index.jsp, webapp/pom.xml, web.xml, Apache Tomc..., and addcategory.jsp. The web.xml file is open, showing the following XML code:

```
1 <!DOCTYPE web-app PUBLIC
2 "-//Sun Microsystems, Inc.//DTD Web Application 2.3//EN"
3 "http://java.sun.com/dtd/web-app_2_3.dtd" >
4
5 <servlet>
6   <servlet-name>dispatcher</servlet-name>
7   <servlet-class>org.springframework.web.servlet.DispatcherServlet</servlet-class>
8   <load-on-startup>1</load-on-startup>
9 </servlet>
10
11 <servlet-mapping>
12   <servlet-name>dispatcher</servlet-name>
13   <url-pattern>/</url-pattern>
14 </servlet-mapping>
15
16 <context-param>
17   <param-name>contextConfigLocation</param-name>
18   <param-value>/WEB-INF/dispatcher-servlet.xml</param-value>
19 </context-param>
20
21 <listener>
22   <listener-class>org.springframework.web.context.ContextLoaderListener</listener-class>
```

An error message is displayed in a yellow box on line 5:

The content of element type "web-app" must match "(icon?,display-name?,description?,distributable?,context-param*,filter*,filter-mapping*,listener*,servlet*,servlet-mapping*,session-config?,mime-mapping*,welcome-file-list?,error-page*,taglib*,resource-env-ref*,resource-ref*,security-constraint*,login-config?,security-role*,env-entry*,ejb-ref*,ejb-local-ref*)".

A large red text overlay reads: **Change the order**

Login.jsp

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
    pageEncoding="ISO-8859-1"%>
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">

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

<title>Shopping chart</title>
</head>
<body>

    <form:form action="isValidUser" method="post">
        Enter User Name:<input type="text" name="name">
        <br />
        Enter Password :<input type="password" name="password" />
        <br />
        <input type="submit">

    </form:form>

</body>
</html>
```



Create Controller

```
package com.niit.shoppingcart.controller;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Controller;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RequestParam;
import org.springframework.web.servlet.ModelAndView;

import com.niit.shoppingcart.dao.UserDAO;

@Controller
public class UserController {

    @Autowired
    UserDAO userDAO;

    @RequestMapping("/isValidUser")
    public ModelAndView showMessage(@RequestParam(value = "name") String name,
        @RequestParam(value = "password") String password) {
        System.out.println("in controller");

        String message;
        if (userDAO.isValidUser(name, password)) {
            message = "Valid credentials";
        } else {
            message = "Invalid credentials";
        }

        ModelAndView mv = new ModelAndView("success");
        mv.addObject("message", message);
        mv.addObject("name", name);
        // mv.addObject("password", password);
        return mv;
    }
}
```


login.jsp

```
1 <%@ page language="java" contentType="text/html; charset=1
2     pageEncoding="ISO-8859-1"%>
3 <!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional/
4
5 <%@taglib uri="http://www.springframework.org/tags/form" p
6
7 <html>
8 <head>
9 <meta http-equiv="Content-Type" content="text/html; charse
10 <title>Insert title here</title>
11 </head>
12 <body>
13
14 <form:form action="validate" method="post" >
15 User Name :<input type="text" name="userName">
16 Password : <input type="text" name = "password">
17
18 <input type="submit" value="Login">
19
20
21
22 </form:form>
23
24 </body>
25 </html>
```

LoginController.java

```
1 package com.niit.shoppingcart.controller;
2
3 import org.springframework.stereotype.Controller;
4 import org.springframework.web.bind.annotation.RequestMapping;
5 import org.springframework.web.servlet.ModelAndView;
6
7 @Controller
8 public class LoginController {
9
10
11
12 @RequestMapping("validate")
13     public ModelAndView isValidUser(String userName, Stri
14     {
15
16
17     }
18
19 }
20
```

MVN Command

//Syntax

```
mvn archetype:generate
```

```
-DgroupId={project-packaging}
```

```
-DartifactId={project-name}
```

```
-DarchetypeArtifactId=maven-archetype-webapp
```

//for example

```
mvn archetype:generate
```

```
-DgroupId=com.niit
```

```
-DartifactId=ShoppingCart
```

```
-DarchetypeArtifactId=maven-archetype-webapp
```