CONVENTIONS WITH STRUTS 2 FRAMEWORK

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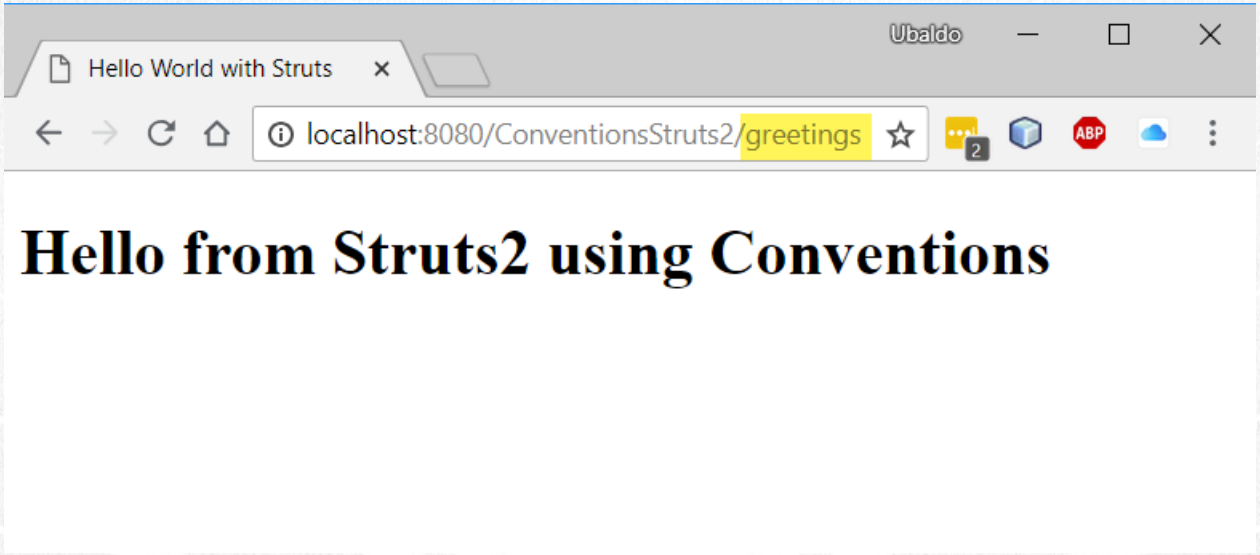
Global Mentoring

JAVA ONLINE COURSES UNIVERSITY

EXERCISE OBJECTIVE

Create an application to implement the use of conventions with Struts 2 Framework. At the end we should observe the following:



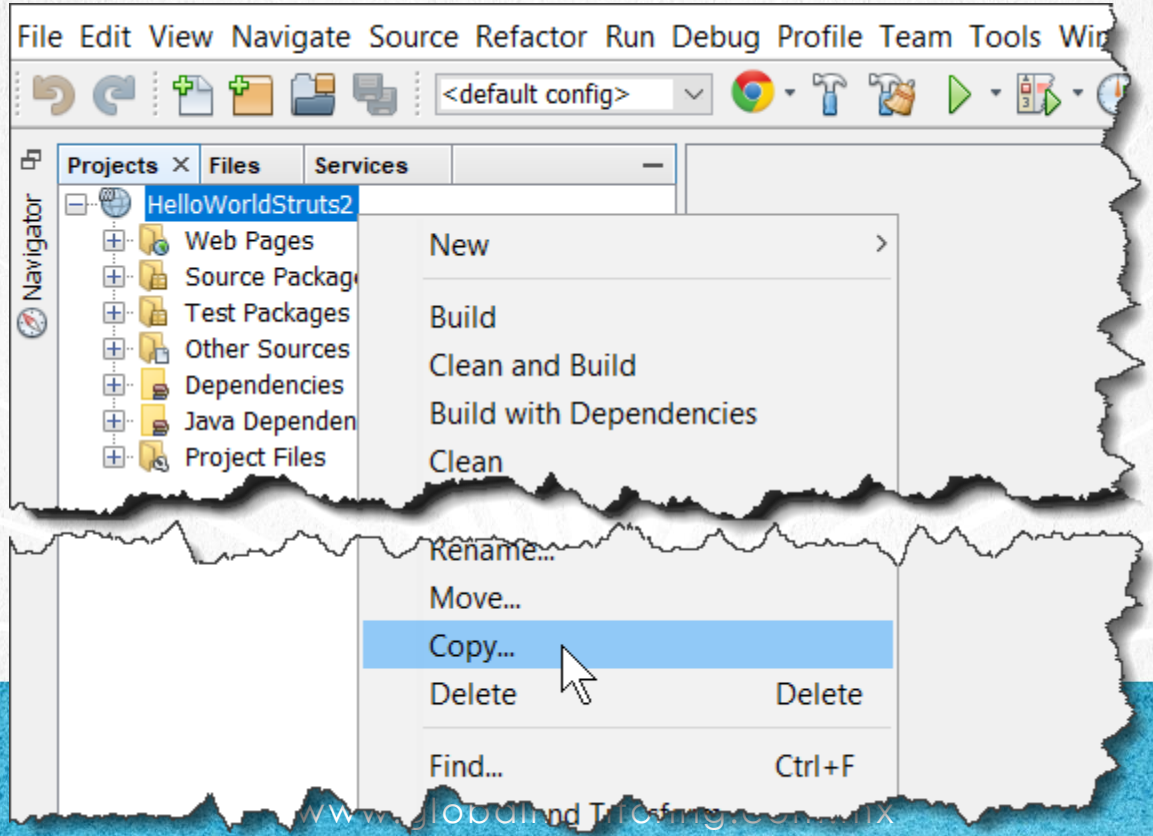
1. COPY THE PROJECT

We are going to start from the previous project called HolaMundoStruts. What we are going to do is copy this project from the IDE, however if the IDE does not have this option, then you have to directly copy the project folder from a file browser in order to duplicate the project and not have to rewrite everything of zero.

So let's use the copy option in our case as follows:

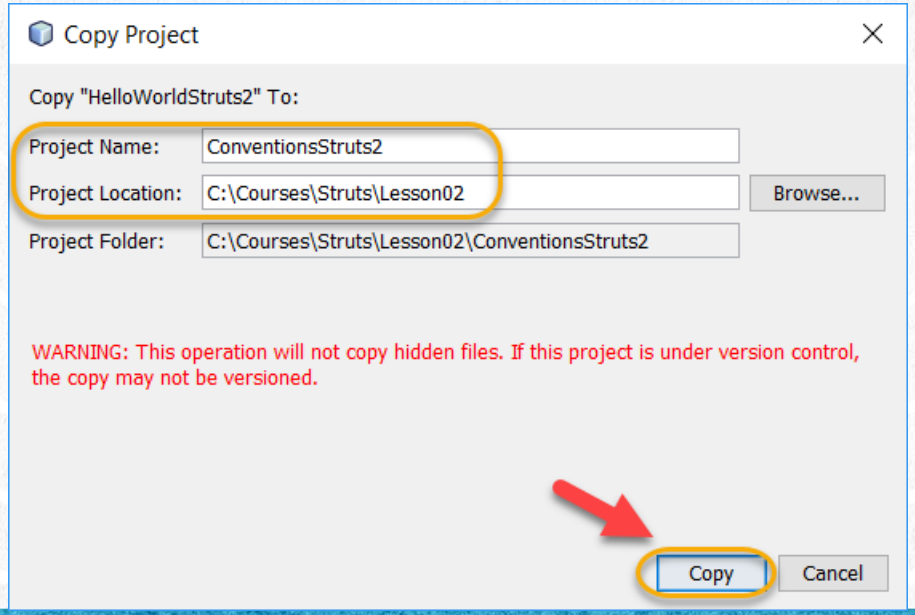
1. COPY THE PROJECT

- We created the new project using the copy function on the previous project :



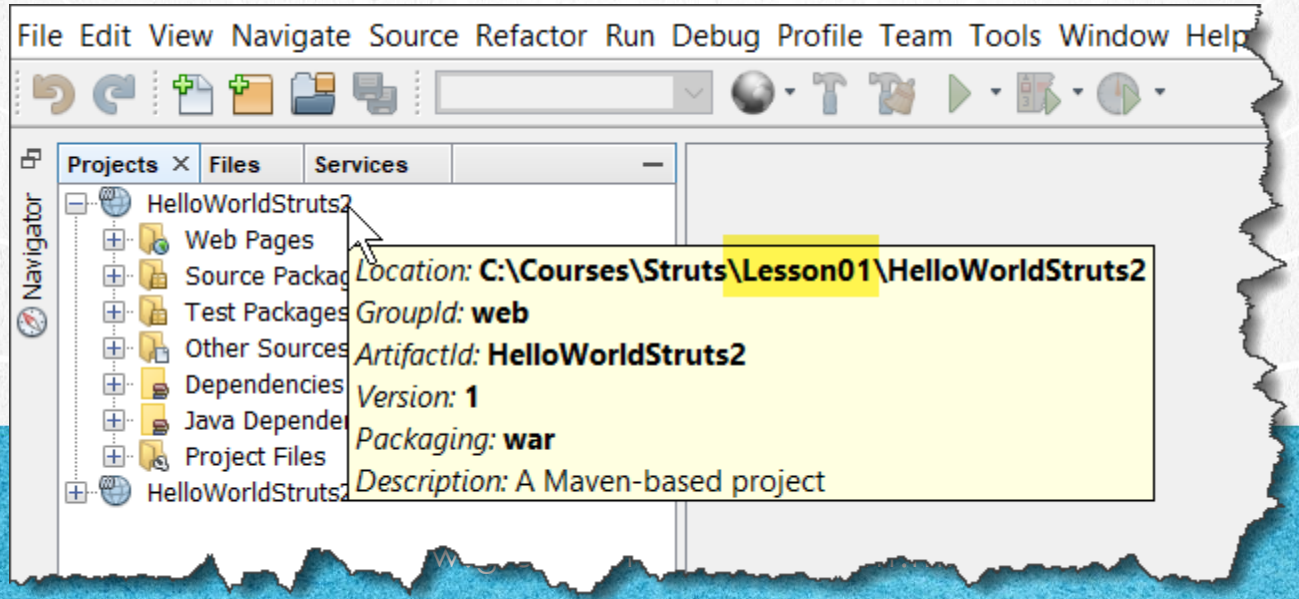
1. COPY THE PROJECT

- We write the following values as shown and click on copy. This will not change the name of the Maven project, so we'll do that later.



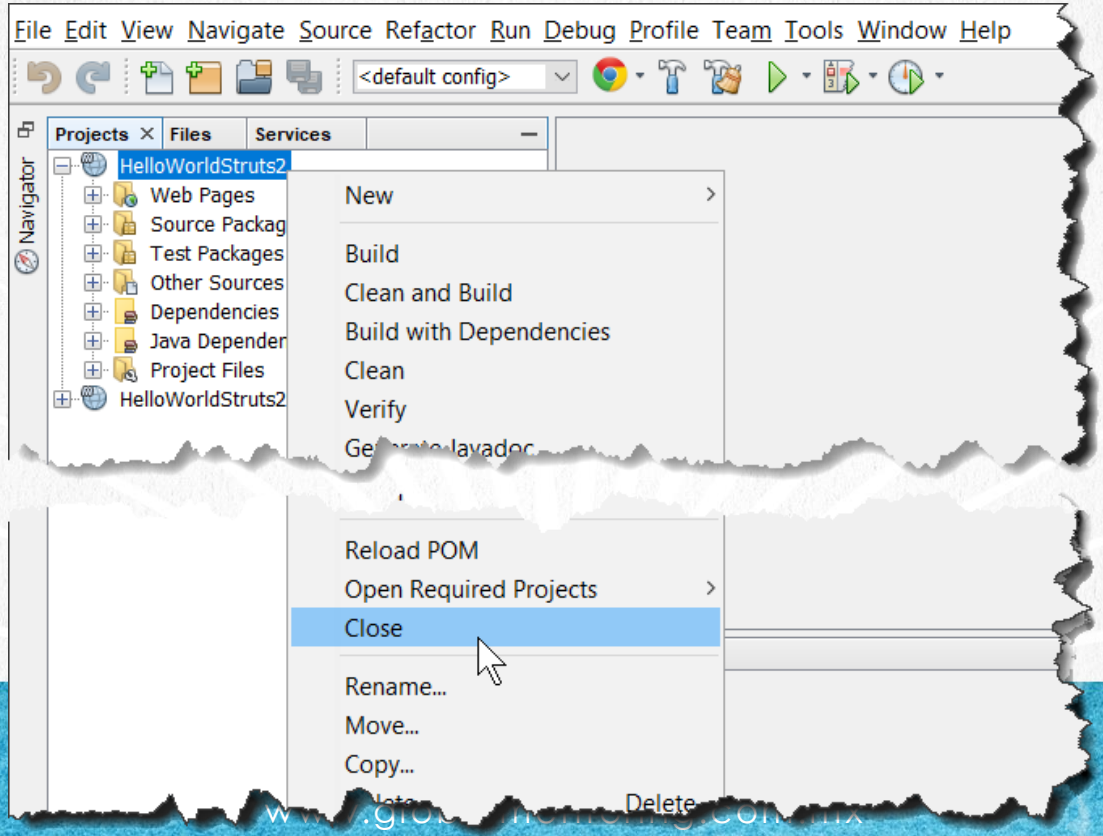
2. CLOSE THE PROJECT THAT WE NO LONGER USE

- We close the project that we no longer use, in this case to know which project we must close (lesson01), we can position ourselves on the name of the project and it will give us more information, including the path where the file is located. This way we will know which project to close and which project to leave open:



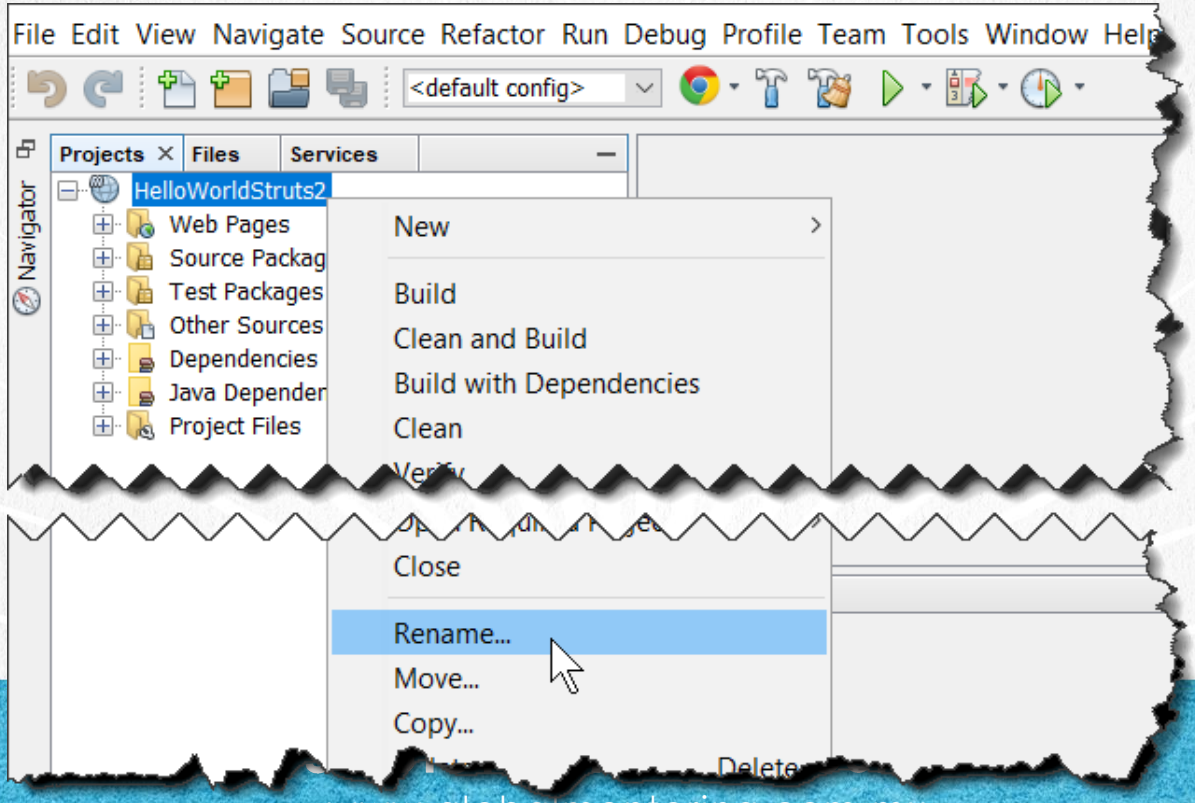
2. CLOSE THE PROJECT THAT WE NO LONGER USE

- Close the project that we do not longer use.



3. RENAME THE MAVEN PROJECT

- We also changed the name so that it affects maven's pom.xml file, as follows:



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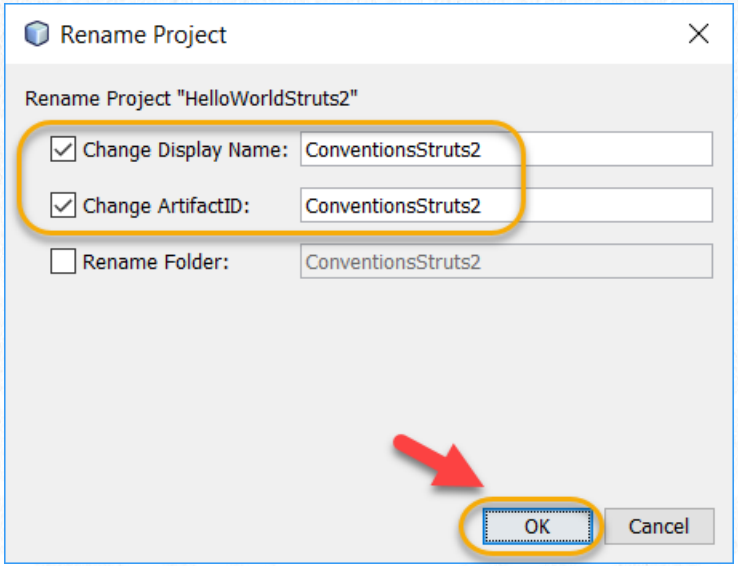
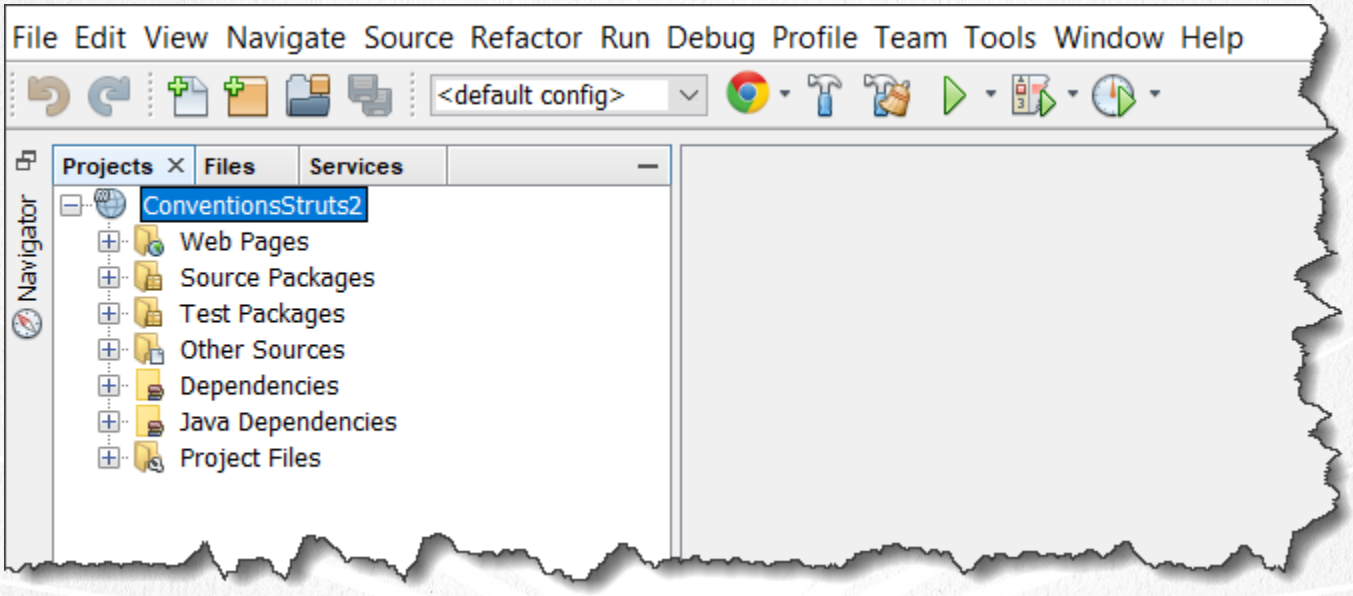


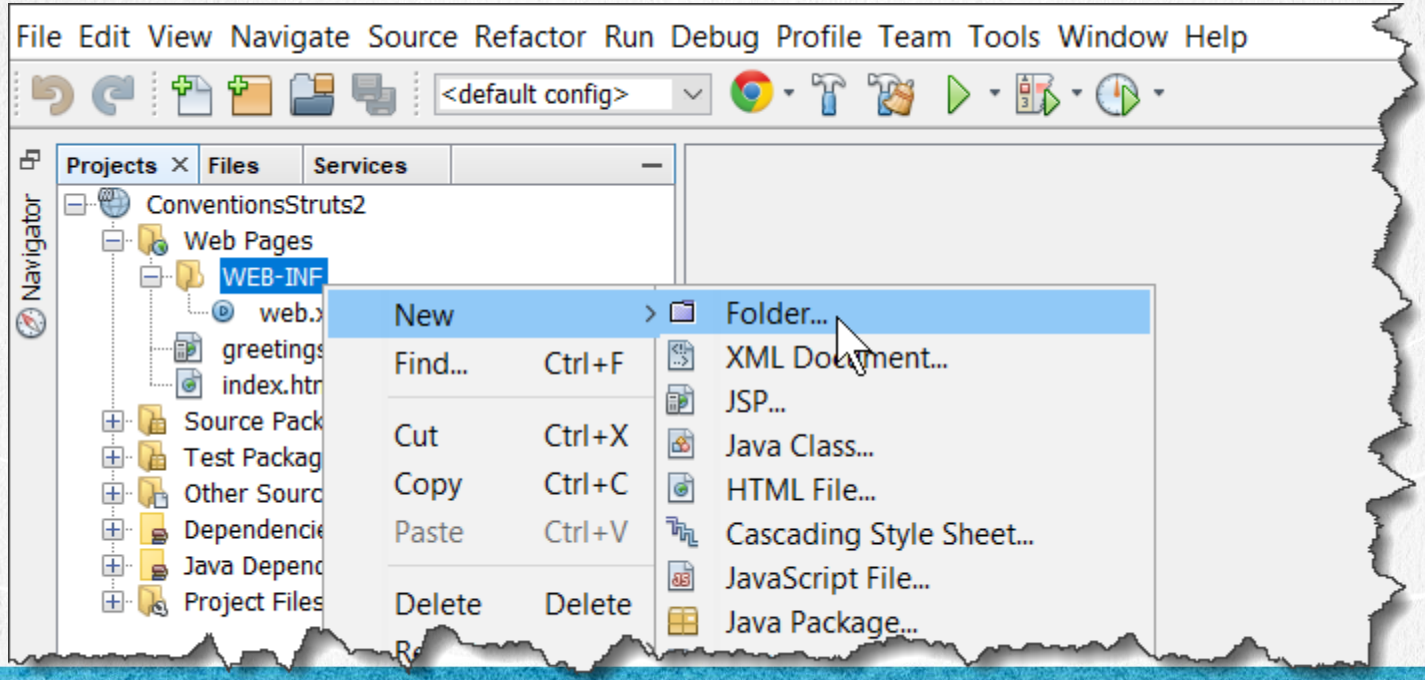
3. RENAME THE MAVEN PROJECT

- The result is as follows:



4. CREATE A FOLDER CALLED CONTENT

- We create a folder called **content** within WEB-INF :



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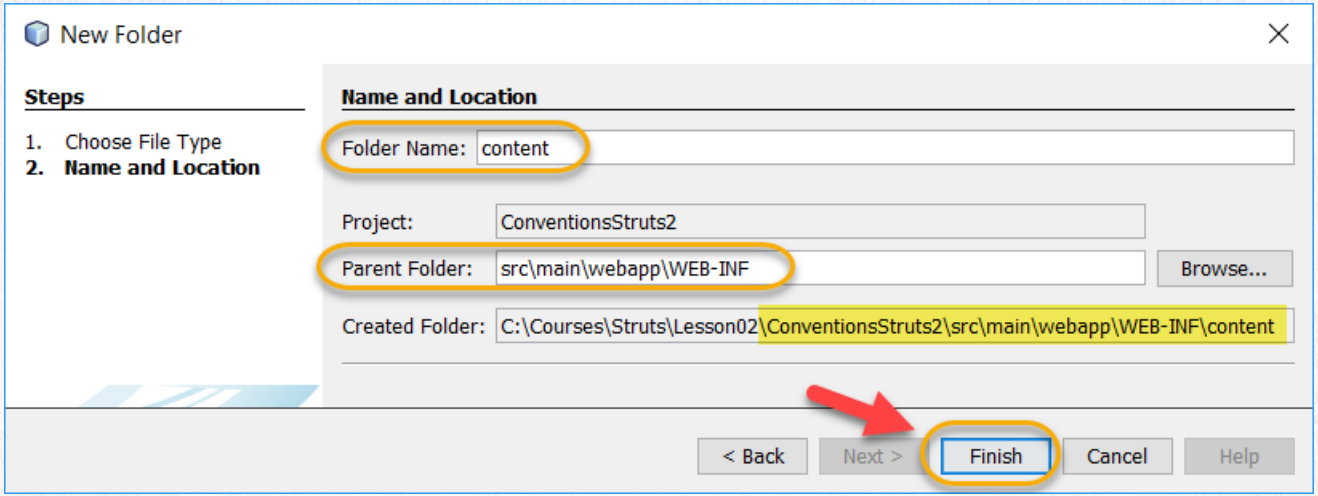
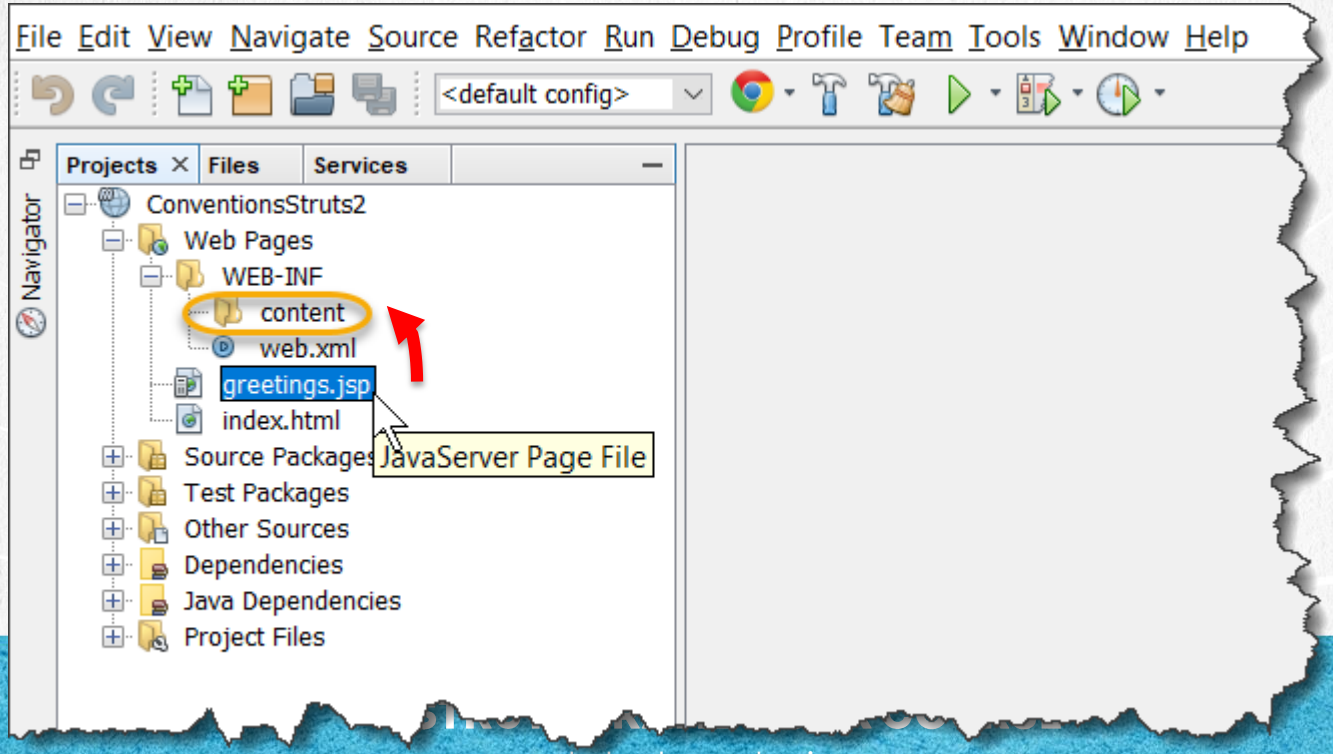


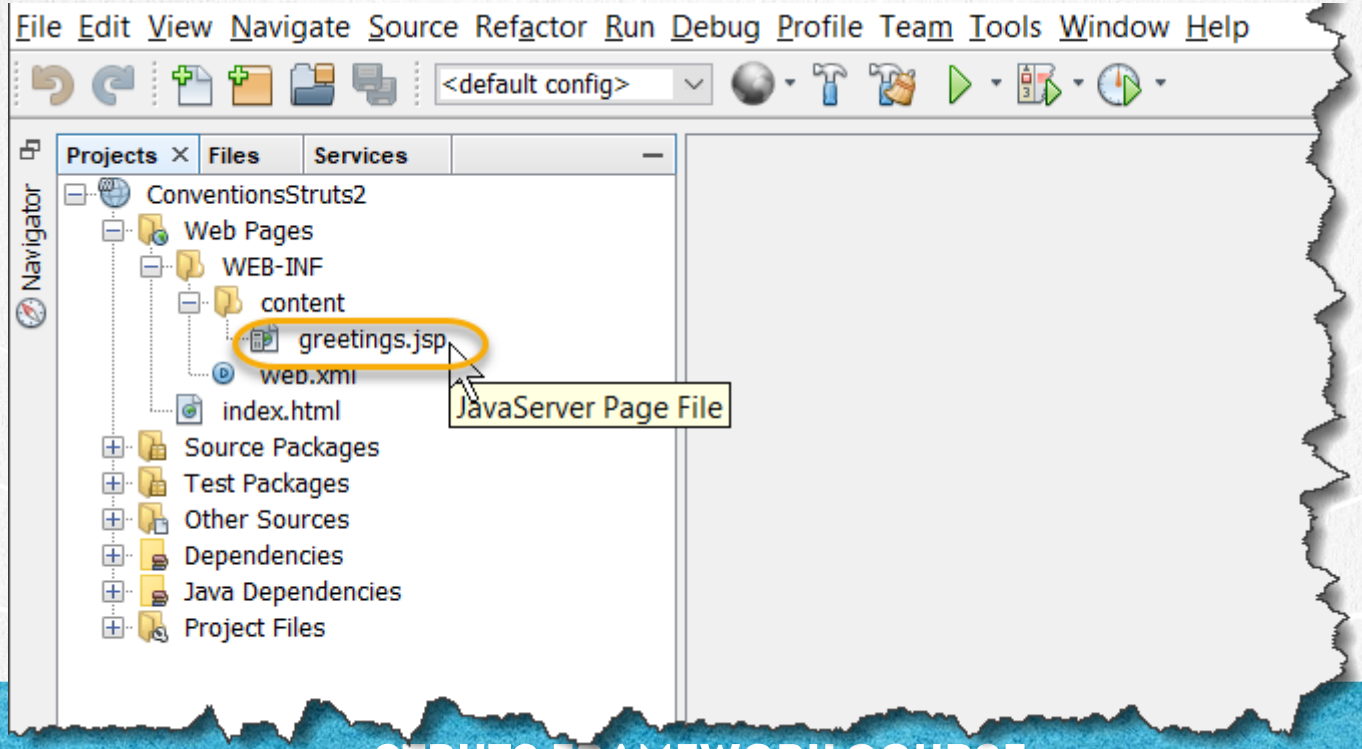
5. MOVE THE VIEW TO THE CONTENT FOLDER

- We move the view called greetings.jsp to the content folder :



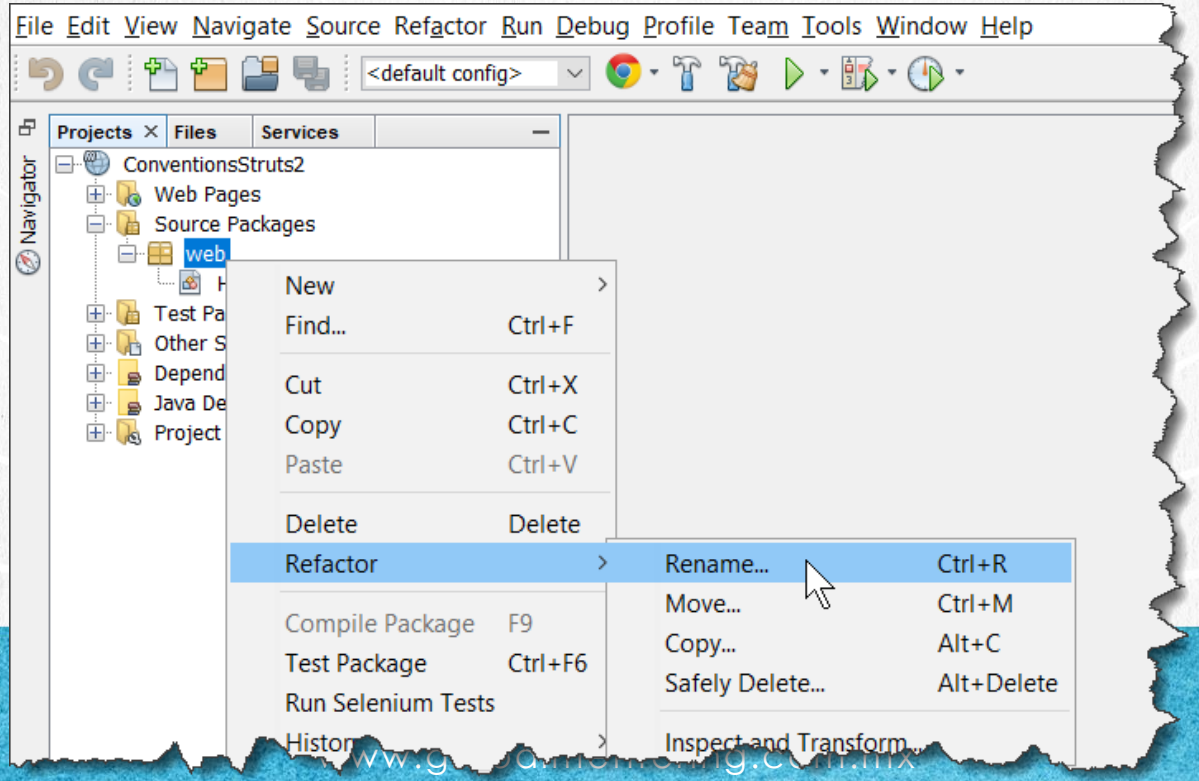
5. MOVE THE VIEW TO THE CONTENT FOLDER

- The result must be as follows:



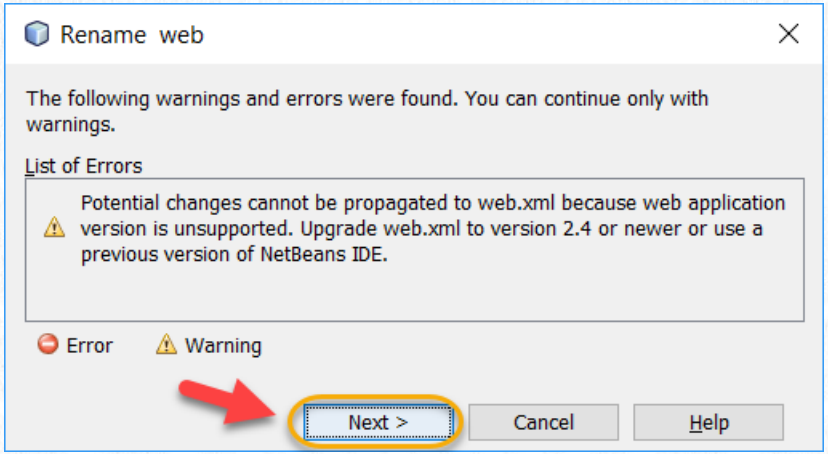
6. RENAME THE ACTION'S JAVA PACKAGE

- We rename the name of the Java package that contains our class of type Action, so that it includes some of the words like: struts, struts2, action or actions.



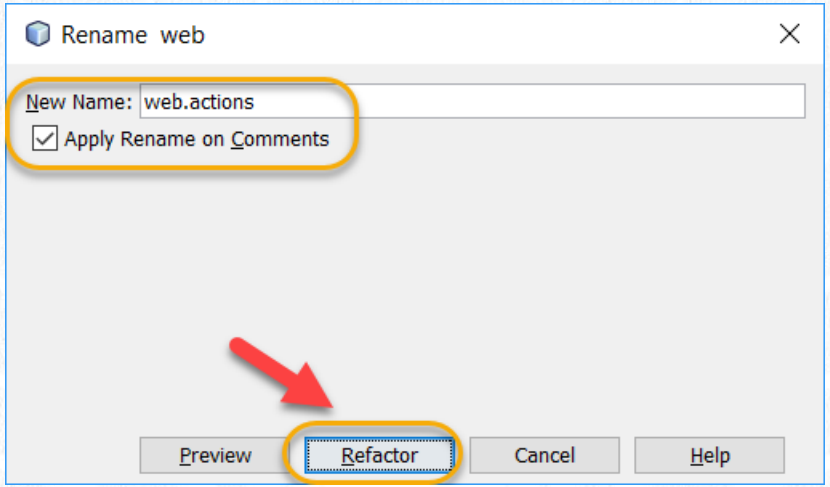
6. RENAME THE ACTION'S JAVA PACKAGE

- In case this warning appears, we click on Next:



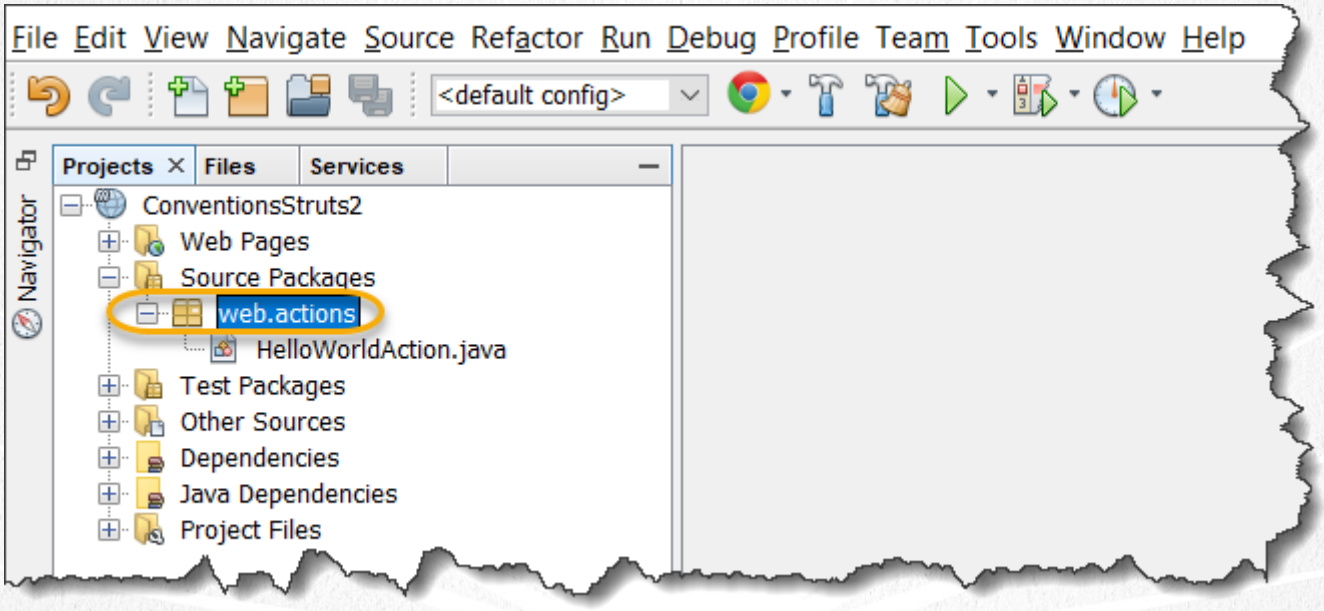
6. RENAME THE ACTION'S JAVA PACKAGE

- We add the word actions in our case, but it could have been any of the words mentioned above, and we click on Refactor to change the name:



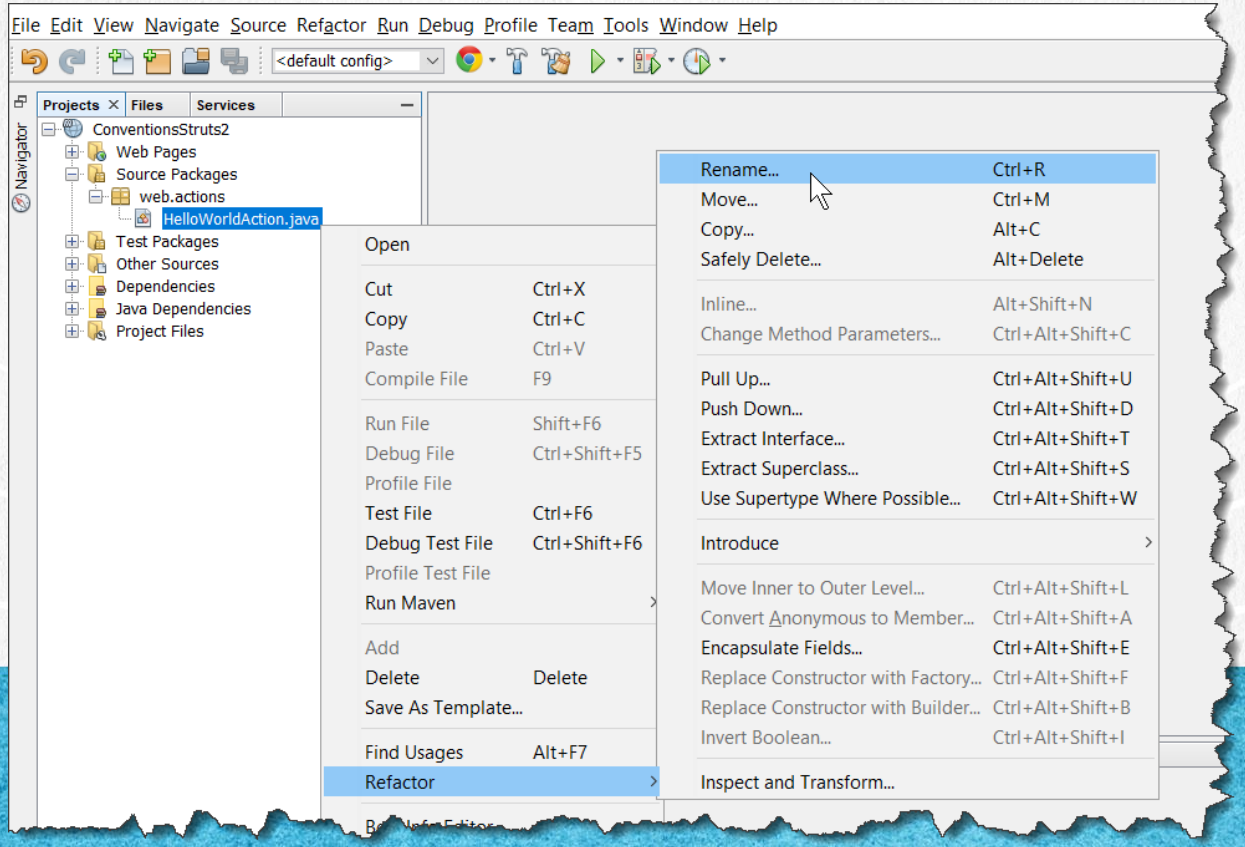
6. RENAME THE ACTION'S JAVA PACKAGE

- The result is as follows, we can see the new name of the package that includes the word actions:



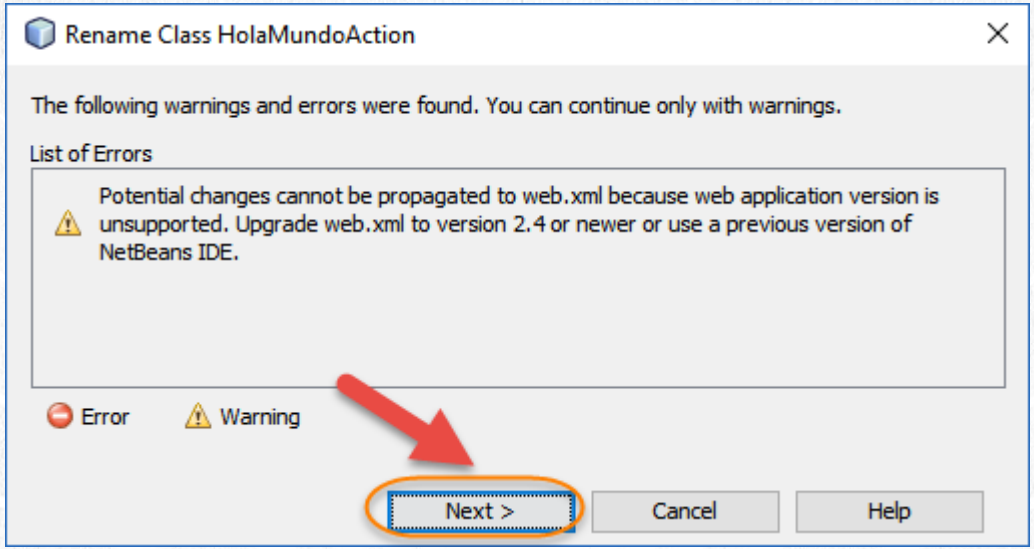
7. RENAME THE ACTION JAVA CLASS

- Because the path will be: /greetings, then the class must also include this name and end with the word Action, leaving then: GreetingsAction.java, in this way it will be configured to respond to the indicated path.



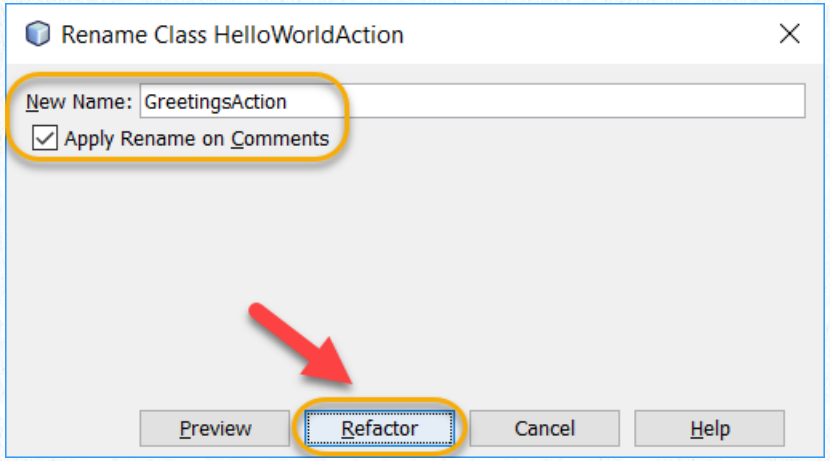
7. RENAME THE ACTION JAVA CLASS

- We accept the warning and click Next:



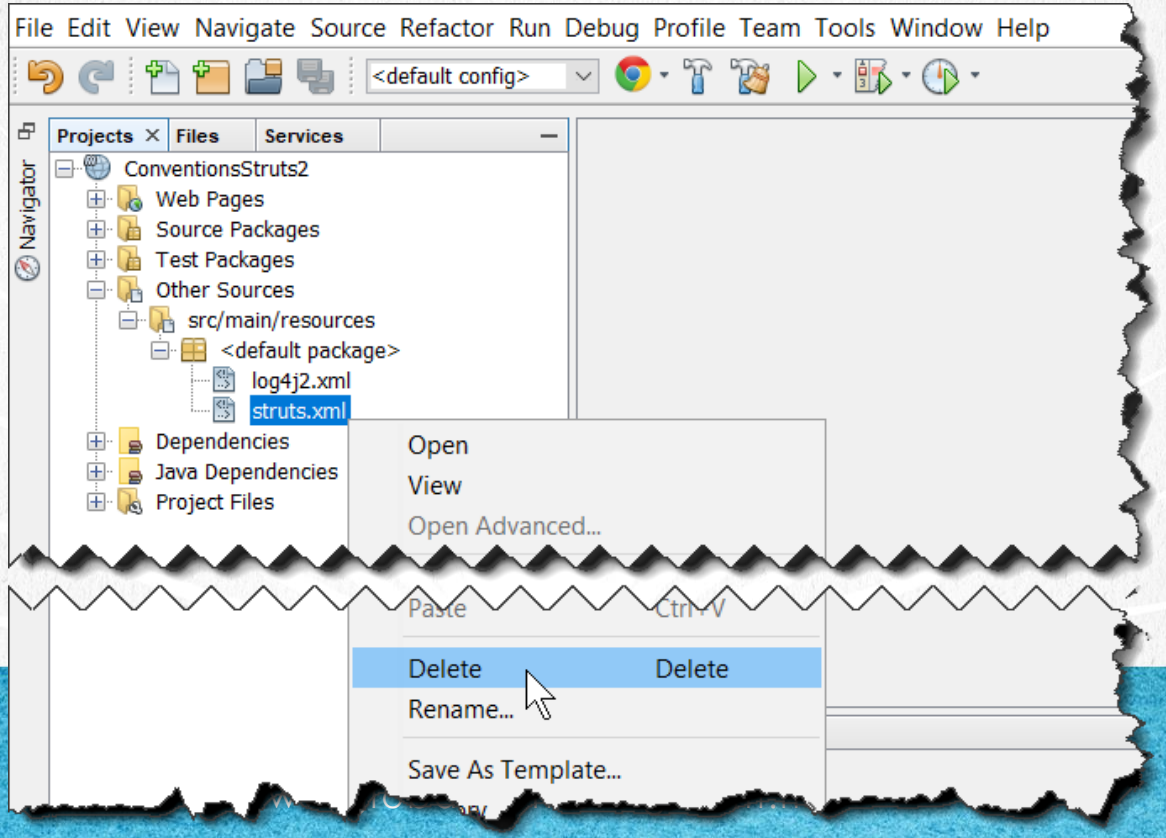
7. RENAME THE ACTION JAVA CLASS

- Refactor the name:



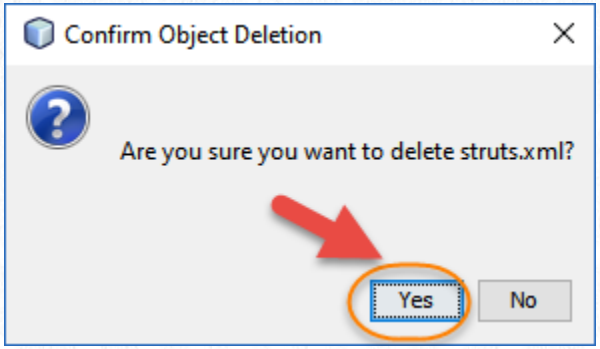
8. REMOVED THE STRUTS.XML FILE

- Because we already have all the changes applying the concept of conventions, we can already delete the struts.xml file and check if the configuration we perform works without adding this configuration in the struts.xml file:



8. REMOVED THE STRUTS.XML FILE

- We confirmed the deletion of the struts.xml file that contained the configuration that will now be made using the Struts 2 conventions:



9. OPEN MAVEN'S POM.XML FILE

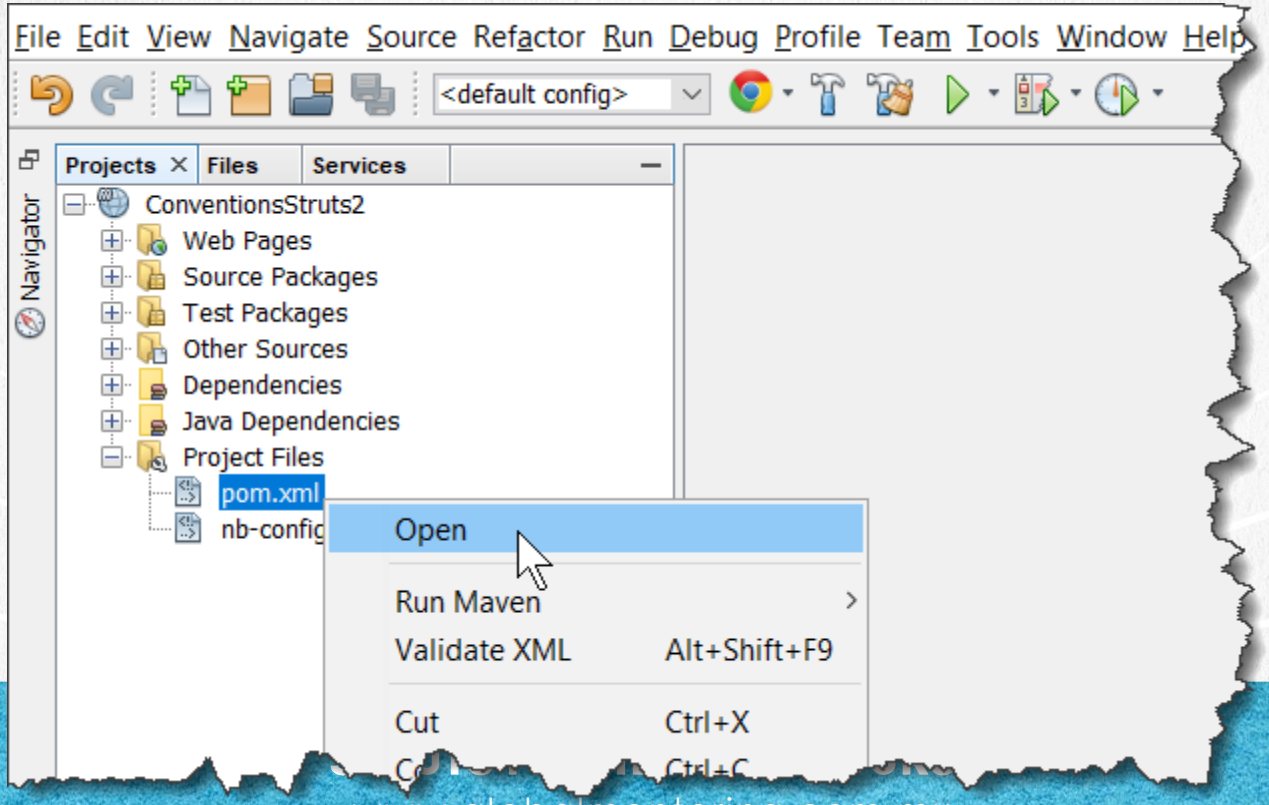
- We open maven's pom.xml file to add one more library that will allow us to use conventions, in particular we will add the library of:

  - ✓ struts2-convention-plugin

- This library will allow us to make use of the configuration using Struts 2 conventions.

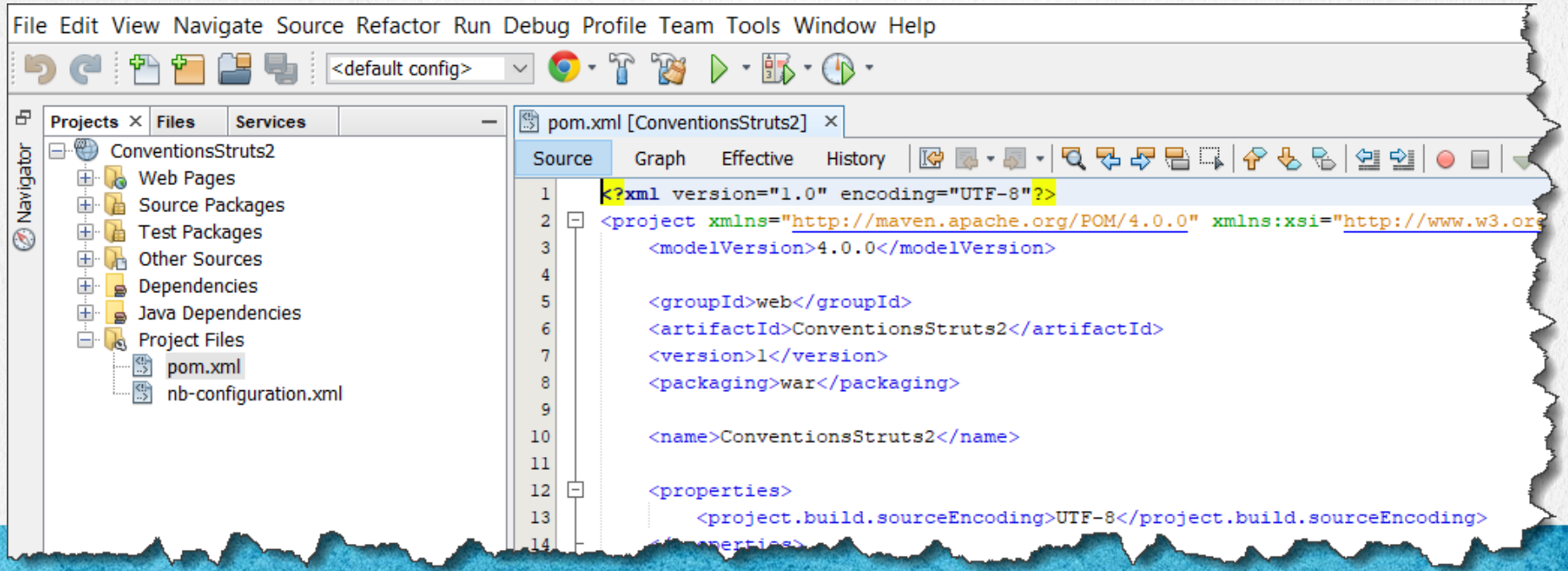
9. OPEN MAVEN'S POM.XML FILE

- We open the pom.xml file to modify it:



9. OPEN MAVEN'S POM.XML FILE

- Once opened, we will modify the information completely of this file, with the information provided below:



10. MODIFY THE FILE

pom.xml:

Click to download

```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>web</groupId>
    <artifactId>ConventionsStruts2</artifactId>
    <version>1</version>
    <packaging>war</packaging>

    <name>ConventionsStruts2</name>

    <properties>
        <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
    </properties>

    <dependencies>
        <dependency>
            <groupId>javax</groupId>
            <artifactId>javaee-web-api</artifactId>
            <version>8.0</version>
            <scope>provided</scope>
        </dependency>
```

10. MODIFY THE FILE

pom.xml:

Click to download

```
        <dependency>
            <groupId>org.apache.struts</groupId>
            <artifactId>struts2-core</artifactId>
            <version>2.5.17</version>
        </dependency>
        <dependency>
            <groupId>org.apache.logging.log4j</groupId>
            <artifactId>log4j-api</artifactId>
            <version>2.11.1</version>
        </dependency>
        <dependency>
            <groupId>org.apache.logging.log4j</groupId>
            <artifactId>log4j-core</artifactId>
            <version>2.11.1</version>
        </dependency>
        <dependency>
            <groupId>org.apache.struts</groupId>
            <artifactId>struts2-convention-plugin</artifactId>
            <version>2.5.17</version>
        </dependency>
</dependencies>
```

10. MODIFY THE FILE

pom.xml:

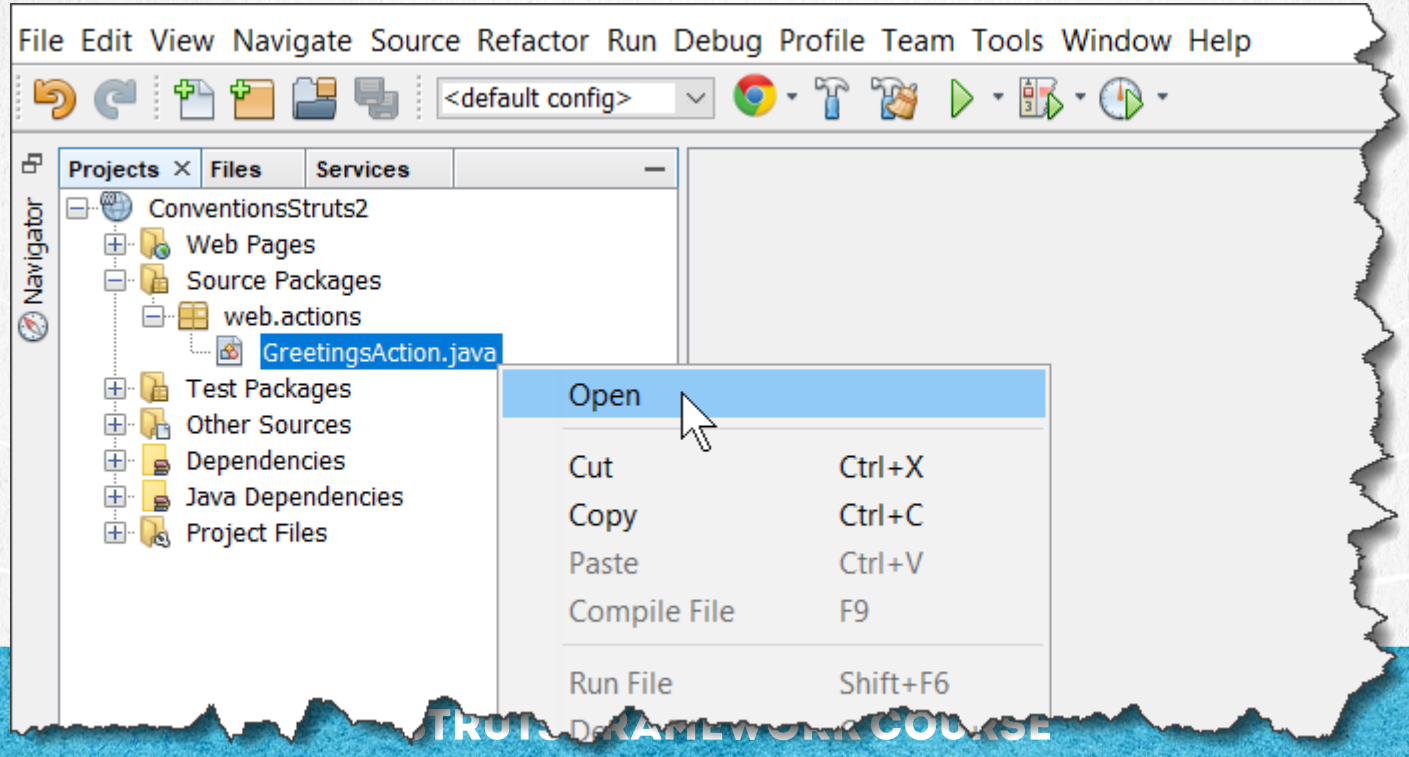
Click to download

```
    <build>
        <plugins>
            <plugin>
                <groupId>org.apache.maven.plugins</groupId>
                <artifactId>maven-war-plugin</artifactId>
                <version>2.3</version>
                <configuration>
                    <failOnMissingWebXml>false</failOnMissingWebXml>
                </configuration>
            </plugin>
            <plugin>
                <groupId>org.apache.maven.plugins</groupId>
                <artifactId>maven-compiler-plugin</artifactId>
                <version>3.7.0</version>
                <configuration>
                    <source>1.8</source>
                    <target>1.8</target>
                </configuration>
            </plugin>
        </plugins>
    </build>

</project>
```

11. WE MODIFY THE ACTION CLASS

- We make a minor change in the class GreetingsAction.java, just to change the output message, the code is as follows:



12. MODIFY THE CODE

GreetingsAction.java:

Click to download

```
package web.actions;

import org.apache.logging.log4j.*;

public class GreetingsAction {

    Logger log = LogManager.getLogger(GreetingsAction.class);

    private String greetings;

    public String execute(){
        log.info("Struts 2 execute method");
        setGreetings("Hello from Struts2 using Conventions");
        return "success";
    }

    public String getGreetings() {
        return greetings;
    }

    public void setGreetings(String greetings) {
        this.greetings = greetings;
    }
}
```

13. MODIFY THE INDEX.HTML

Modify the index.html file to match the path of /greetings, it is important to note that the path is case-sensitive, so it is not the same /Greetings or /greetings, so we will make this change, leaving the file as follows:

14. MODIFY THE CODE

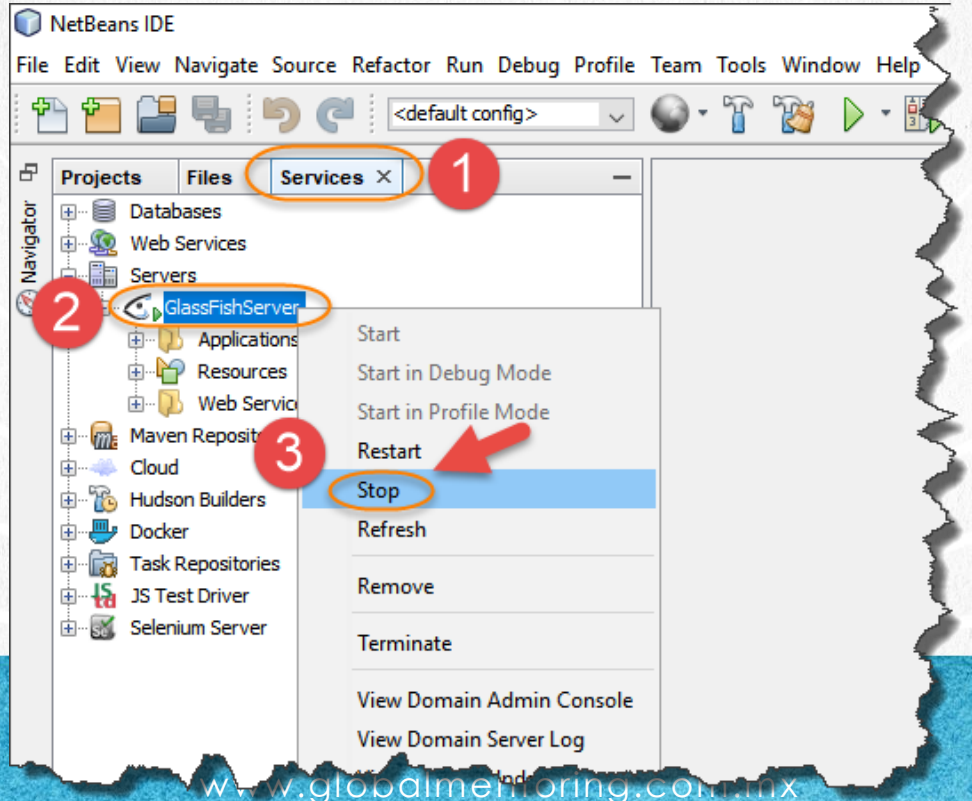
index.html:

Click to download

```
<!DOCTYPE html>
<html>
    <head>
        <title>Home</title>
        <meta charset="UTF-8">
    </head>
    <body>
        <a href="greetings">Go to Struts2 using Conventions</a>
    </body>
</html>
```

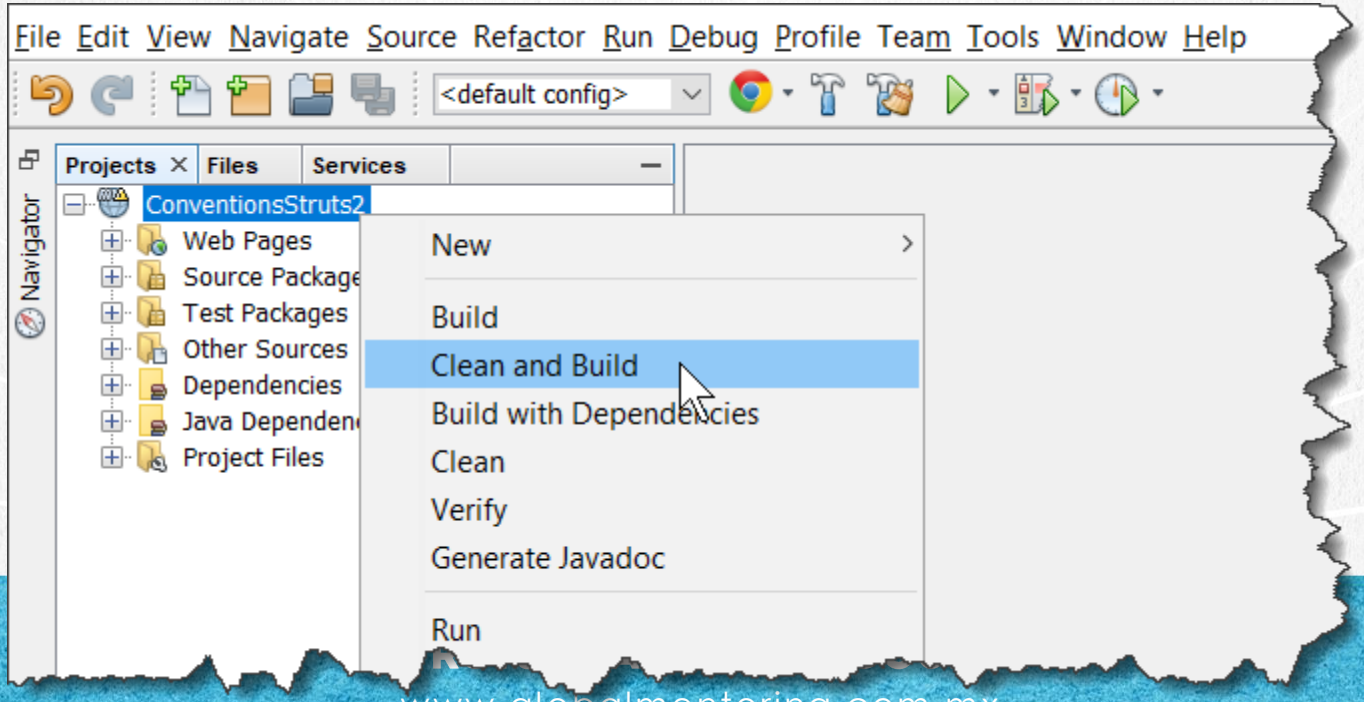
15. STOP GLASSFISH IF IT WAS STARTED

•Before doing Clean & Build of the project to download the new libraries, we verify that the Glassfish server is not started as there may be problems to do the Clean & build process if the server is started. This step is only verification :



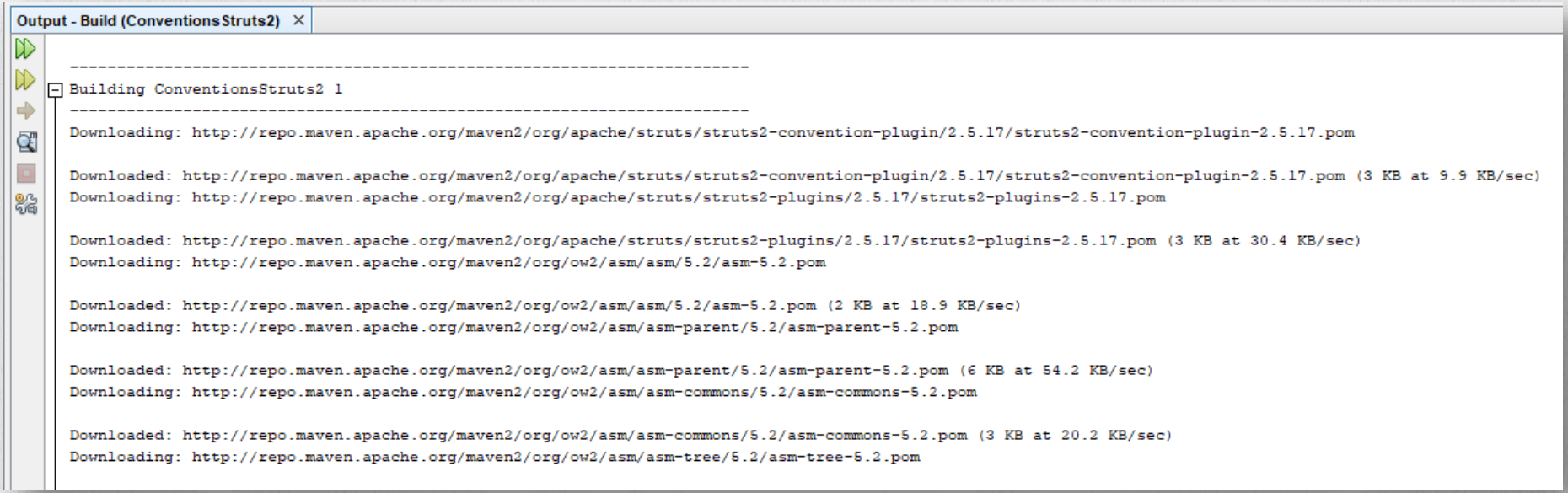
16. EXECUTE CLEAN & BUILD

- In order to download the new libraries, we make Clean & Build the project. If for some reason this process fails, you must disable any software such as antivirus, Windows defender or firewall during this process so that the download of Java .jar files is not prevented. Once finished, these services can be activated again. This process may take several minutes depending on your internet speed:



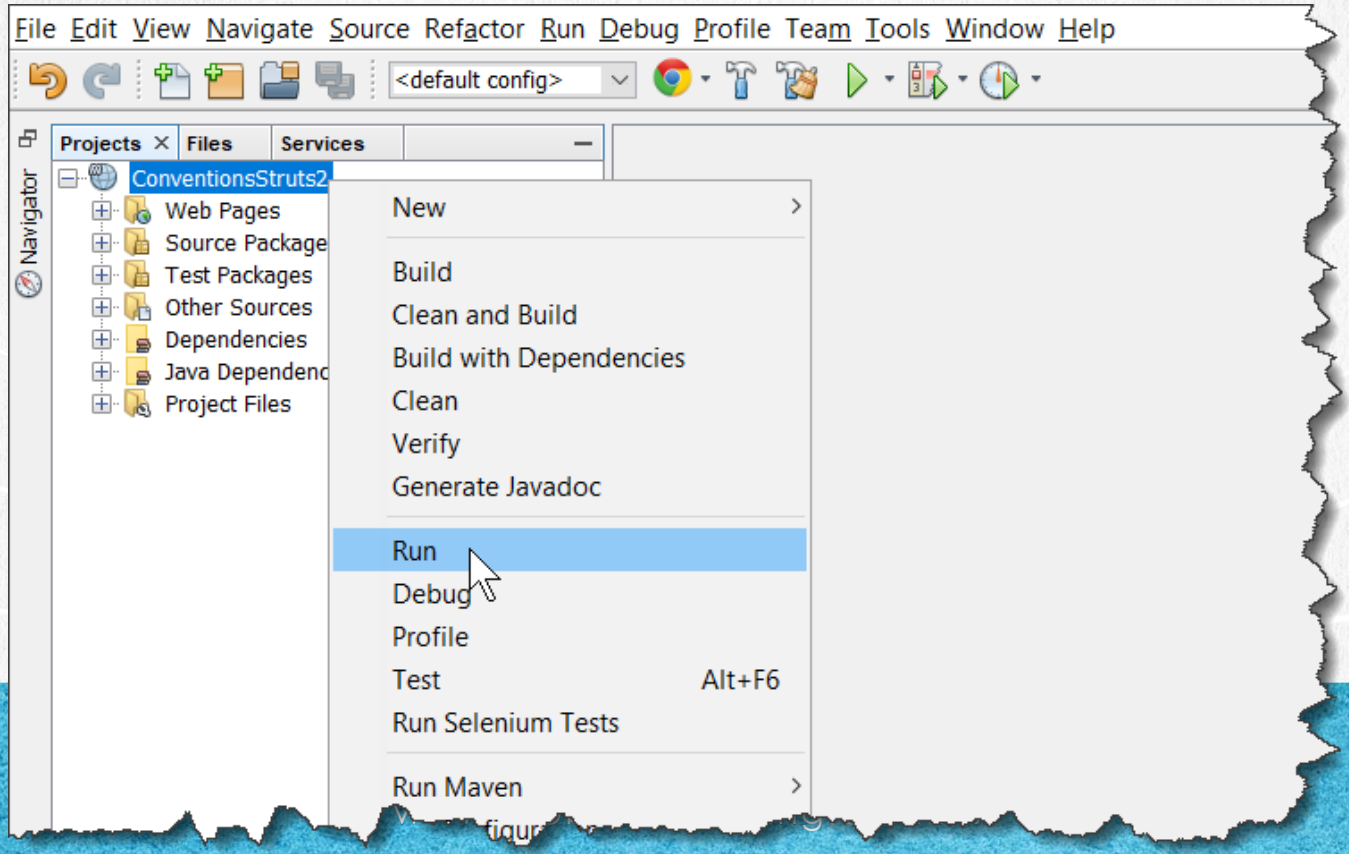
16. EXECUTE CLEAN & BUILD

- You should start downloading the libraries if they have not yet downloaded:



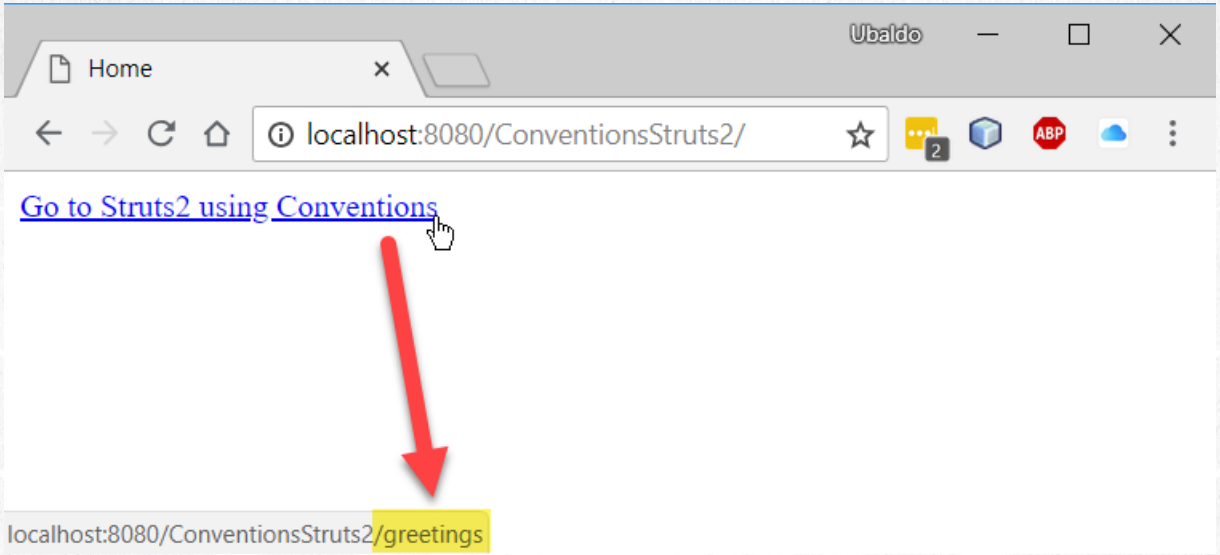
17. EXECUTE THE APPLICATION

- We execute the ConventionsStruts2 application as follows :



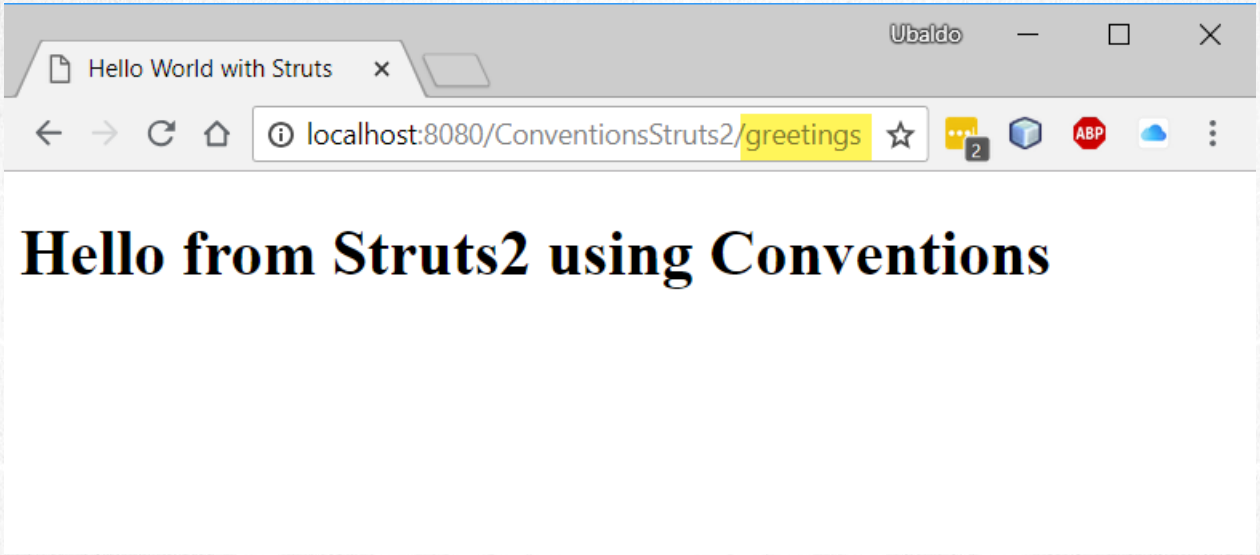
17. EXECUTE THE APPLICATION

- Click on the link:



17. EXECUTE THE APPLICATION

- The result is as follows:



EXERCISE CONCLUSION

With this exercise we have created the concept of configuration by conventions, and with that we managed to avoid the use of the struts.xml file, and through the conventions applied we were able to run our application in the same way without needing the struts.xml file

If necessary it is possible to continue adding the struts.xml file, however as far as possible we will apply the use of conventions whenever it is possible to use it.

With this we conclude the configuration topic based on conventions in Struts 2.

ONLINE COURSE

STRUTS 2 FRAMEWORK

By: Eng. Ubaldo Acosta