

SPRING FRAMEWORK

SPRING FRAMEWORK



TOPICS

- Java Frameworks
- Spring

JAVA FRAMEWORKS

JAVA FRAMEWORKS

FRAMEWORKS

- Frameworks are a group of tools and models that are built to help programmers to build *complex and extensible applications*.
- Programmers use frameworks to *reduce* the development time and make the programming process *easier*.

JAVA FRAMEWORKS

MOST POPULAR JAVA FRAMEWORKS

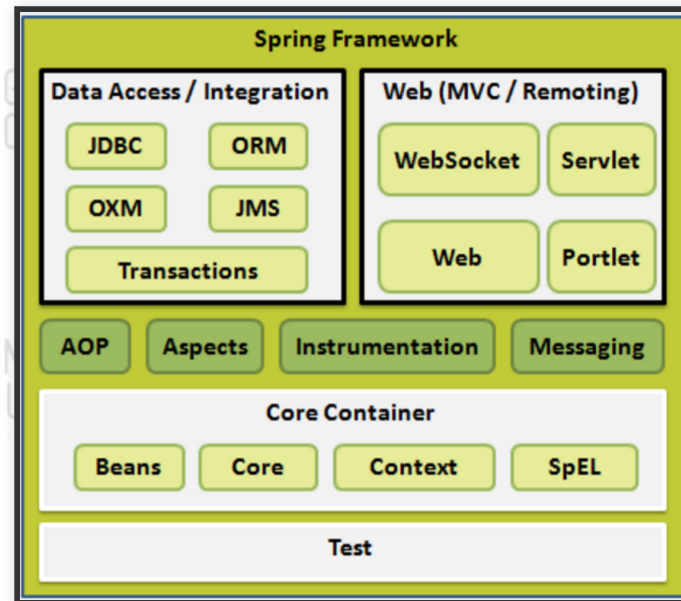
- Spring
- JSF
- Struts

JAVA FRAMEWORKS - SPRING

SPRING

- Spring is the most used Java framework!
- Large group of libraries to program enterprise applications.
- Has projects for Data, Security, Big Data, Mobile, Web services, and more.
- <https://spring.io/>

JAVA FRAMEWORKS - SPRING



SPRING

SPRING MVC

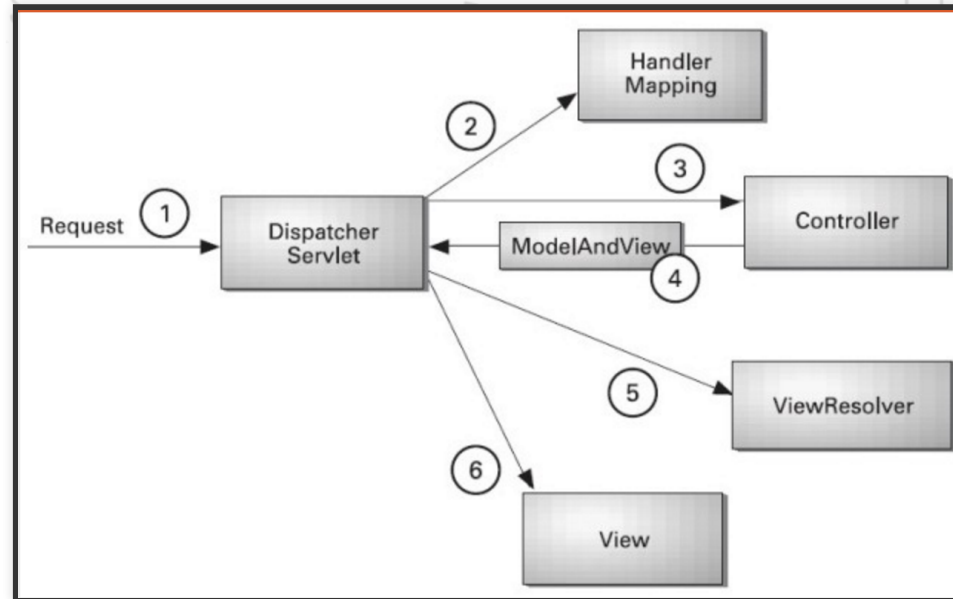
- Spring has an MVC framework that can be used for more easily creating web applications.
- Model – View – Controller Implementation using annotations and configuration files.

SPRING MVC

SPRING MVC

The Spring Web MVC framework is designed around a *DispatcherServlet* that dispatches requests to handlers, with configurable handler mappings.

SPRING MVC



SPRING MVC

HANDLING REQUESTS

1. Incoming request is handled by the DispatcherServlet (front controller).
2. The DispatcherServlet looks at the web.xml to find the handler mapping.
3. The DispatcherServlet forwards the request to the controller.

SPRING MVC

HANDLING REQUESTS (CONT.)

1. The controller processes the request, and then returns the Model and the View to the DispatcherServlet.
2. The DispatcherServlet then checks the web.xml again at the view resolver section to know the specified view component.

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WEB.XML

- Web.xml will have settings to configure the dispatcher!
- Web.xml can be used to set the default page of the web application.
- Also, we can use it to do the mappings of the client requests.

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WEB.XML

```
< welcome-file-list>
  < welcome-file>index.jsp< /welcome-file>
< /welcome-file-list>
< servlet>
  < servlet-name>dispatch< /servlet-name>
  < servlet-class>
    org.springframework.web.servlet.DispatcherServlet
  < /servlet-class>
  < load-on-startup>1< /load-on-startup>
< /servlet>
< servlet-mapping>
  < servlet-name>dispatch< /servlet-name>
  < url-pattern>*.html< /url-pattern>
< /servlet-mapping>
< /web-app>
```


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DISPATCHER

```
< context:component-scan base-package="com.testSpring2.controller" />
< context:component-scan base-package="com.testSpring2.controller2" />

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

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CONTROLLER

```
@Controller
public class testSpring2HelloWorld {

    @RequestMapping("/welcome")
    public ModelAndView helloWorld() {

        String message = "Hello World!";
        return new ModelAndView("welcome", "message", message);
    }
}
```

SPRING MVC

CONTROLLERS

```
@RequestMapping(value = "/index", method = RequestMethod.GET)
```

WHAT IS MAVEN?

APACHE MAVEN

- Maven is a software project management tool that is used to manage the project's build, reporting, documentation, and testing.
- <https://maven.apache.org/>
- POM (Project Object Model) is the file that Maven uses to load the required dependencies.
- Similar software: Gradle, Ant

SPRING MVC

SPRING MVC

- Install Spring (using Maven)
- Example with Instructor.

POM.XML

DEPENDENCIES:

```
< dependencies>  
  < dependency>  
    < groupId>org.springframework< /groupId>  
    < artifactId>spring-context< /artifactId>  
    < version>4.2.4.RELEASE< /version>  
  < /dependency>  
< /dependencies>
```

< groupId>:< artifactId>:< version> is the full name for the dependency