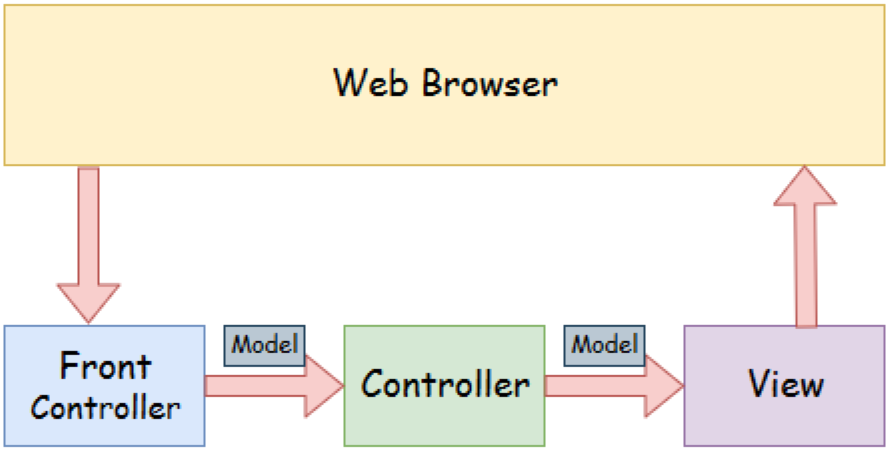
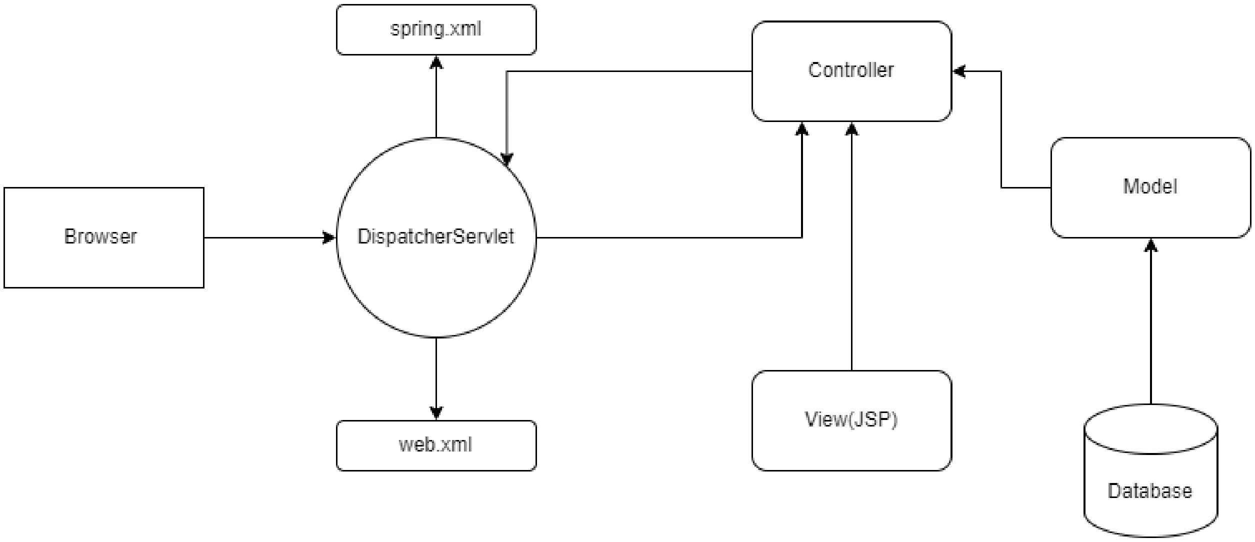
Spring MVC Notes

A Spring MVC is a Java framework which is used to build web applications. It follows the Model-View-Controller design pattern. It implements all the basic features of a core spring framework like Inversion of Control, Dependency Injection.

A Spring MVC provides an elegant solution to use MVC in spring framework by the help of **DispatcherServlet**. Here, **DispatcherServlet** is a class that receives the incoming request and maps it to the right resource such as controllers, models, and views.



- **Model** - A model contains the data of the application. A data can be a single object or a collection of objects.
- **Controller** - A controller contains the business logic of an application. Here, the @Controller annotation is used to mark the class as the controller.
- **View** - A view represents the provided information in a particular format. Generally, JSP+JSTL is used to create a view page. Although spring also supports other view technologies such as Apache Velocity, Thymeleaf and FreeMarker.
- **Front Controller** - In Spring Web MVC, the DispatcherServlet class works as the front controller. It is responsible to manage the flow of the Spring MVC application.



1. Web Application runs in a browser where requests are generated by clicking the button, clicking on hyperlinks, etc.,
2. The first request should be reached to DispatcherServlet
3. DispatcherServlet is defined in web.xml and we can configure the spring XML in the same file.
4. DispatcherServlet knows what controller to execute based on the URL selected and executed in web browser.
5. Controller is a class where we can implement logic for the functionality, attaching model and redirecting to the right view.

Advantages of Spring MVC Framework

- **Separate roles** - The Spring MVC separates each role, where the model object, controller, command object, view resolver, DispatcherServlet, validator, etc. can be fulfilled by a specialized object.
- **Light-weight** - It uses light-weight servlet container to develop and deploy your application.
- **Powerful Configuration** - It provides a robust configuration for both framework and application classes that includes easy referencing across contexts, such as from web controllers to business objects and validators.
- **Rapid development** - The Spring MVC facilitates fast and parallel development.
- **Reusable business code** - Instead of creating new objects, it allows us to use the existing business objects.
- **Easy to test** - In Spring, generally we create JavaBeans classes that enable you to inject test data using the setter methods.
- **Flexible Mapping** - It provides the specific annotations that easily redirect the page.