Spring MVC

Java Frameworks

Developed as part of Morning School Training Program @ Citicorp Services India Ltd

Prerequisite Reading

- HTTP Fundamentals
  - https://www.youtube.com/watch?v=RsQ1tFLwldY
  - http://www.slideshare.net/mario_cardinal/http-fundamentals-for-developers
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HTTP Basics

- Request
  - Methods, Headers, Media Type
- Response
  - Status, Headers, Media Type
- Cookies

http://www.slideshare.net/mario_cardinal/http-fundamentals-for-developers

HTTP Methods

- GET - request a page/resource from server
- POST - submits form/data to server as create
- PUT - submits form/data to server as update
- DELETE - delete a resource
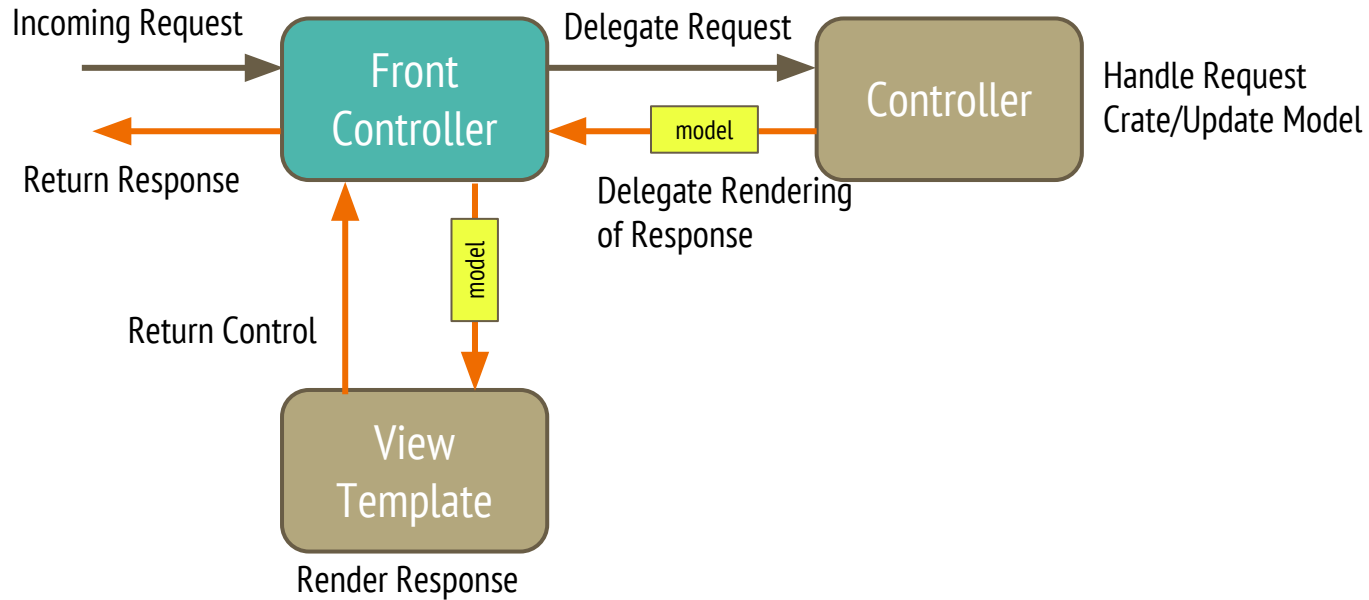- PATCH - partially updates data

http://www.restapitutorial.com/lessons/httpmethods.html

Model View Controller
all about separation of concerns

- A **model** is responsible for managing application data
- A **view** provides a view/means to represent the data for users to consume and act on it
- A **controller** is link between model and view and provides

Spring MVC

@ Spring MVC Annotations

@Controller, @RequestMapping

@PathVariable, @RequestParam

@RequestHeader, @CookieValue

@RequestBody

@ResponseBody

https://dzone.com/refcardz/spring-annotations

@Controller & @RequestMapping

```java
@Controller
public class HelloWorldController {


    @RequestMapping("/helloWorld", method = RequestMethod.GET)
    public String helloWorld(Model model) {
        model.addAttribute("message", "Hello World!");
        return "helloWorld";
    }
}
```

@PathVariable & @RequestParam

```java
// /owners/a12345/pets/1234567890
@RequestMapping(path = "/owners/{ownerId}/pets/{petId}", method = RequestMethod.GET)
public String findPetForOwner(@PathVariable("ownerId") String owner,
                             @PathVariable Long petId) {

    // ...
}


// /owners?sortBy=name&sortOrder=asc
@RequestMapping(path = "/owners", method = RequestMethod.GET)
public String findOwners(@RequestParam String sortBy,
                         @RequestParam String sortOrder) {

    // ...
}
```

@RequestHeader & @CookieValue

```java
@RequestMapping("...")
public void method(@RequestHeader("Accept-Encoding") String encoding,
                   @RequestHeader("Keep-Alive") long keepAlive) {
    //...
}


@RequestMapping("...")
public void method(@CookieValue("JSESSIONID") String cookie) {
    //...
}
```

@RequestBody

```java
@RequestMapping(path = "/pets", method = RequestMethod.POST)
public ModelAndView handle(@RequestBody String body) {
    // implementation omitted
}


@RequestMapping(path = "/pets", method = RequestMethod.POST)
public ModelAndView addPet(@RequestBody Pet pet) {
    // implementation omitted
}
```

Parse Multipart request with @RequestPart

```java
@RequestMapping(path = "/someUrl", method = RequestMethod.POST)
public String onSubmit(@RequestPart("meta-data") MetaData metadata,
        @RequestPart("file-data") MultipartFile file) {



    // ...


}
```

@ResponseBody

```java
@RequestMapping(path = "/something", method = RequestMethod.GET)
@ResponseBody
public String helloWorld() {
    return "Hello World";
}
```

Response using ModelAndView

```java
@RequestMapping(path="/content", method=RequestMethod.GET)
public ModelAndView getContent() {
  List<Content> contentList = getContentFromService();
    ModelAndView mav = new ModelAndView();
    mav.setViewName("content");
    mav.addObject("contentList", contentList);
    return mav;
  }
```

Response using ModelAndView: FreeMarker template

```
<table>
  <tbody>
    <tr>
      <#list contentList as content>
        <td>${content.name}</td>
        <td>${content.price}</td>
      </#list>
    </tr>
  </tbody>
</table>
```

http://freemarker.org/docs/dgui_quickstart_template.html

Future Reading

- HTTP Basis https://www.youtube.com/watch?v=RsQ1tFLwldY
- Book: Spring In Action 4th Edition
- Spring MVC Documentation
  - http://docs.spring.io/spring-framework/docs/current/spring-framework-reference/html/mvc.html

Thanks!

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