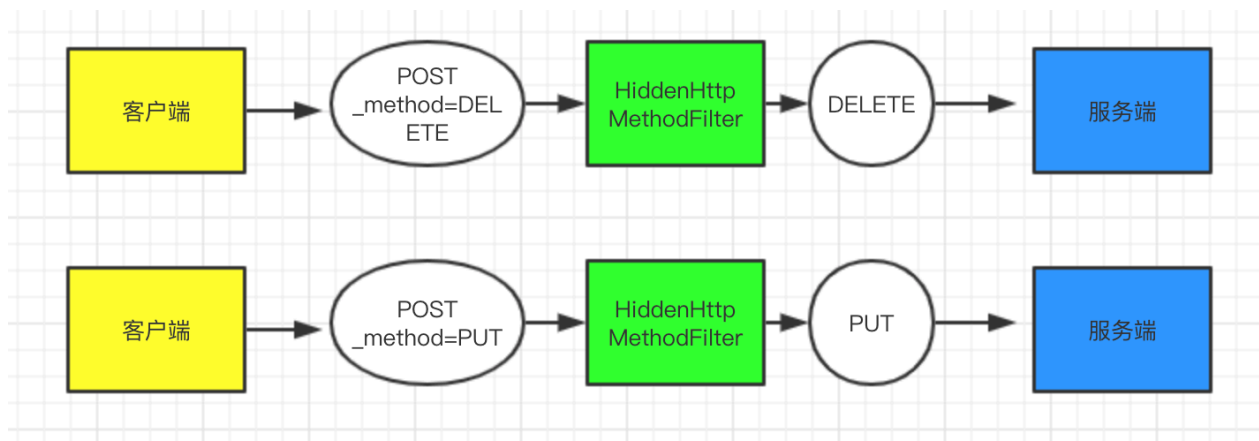


传统的 Web 开发中，form 只支持 GET 和 POST，不支持 DELETE 和 PUT，如何解决？通过添加 HiddenHttpMethodFilter 过滤器，可以将 POST 请求转为 PUT 或者 DELETE。

HiddenHttpMethodFilter 的实现原理

HiddenHttpMethodFilter 检测请求参数重是否包含 _method 参数，如果包含则取出它的值，并且判断请求类型之后完成请求类型的转换，然后继续传递。



实现步骤

1、在 form 表单中添加隐藏域标签，name 为 _method，value 为 DELETE/PUT。

```
<!--
Created by IntelliJ IDEA.
User: southwind
Date: 2020-02-11
Time: 11:53
To change this template use File | Settings | File Templates.
-->
<%@ page contentType="text/html;charset=UTF-8" language="java" %>
<html>
<head>
<title>Title</title>
</head>
<body>
<form action="/rest/update" method="post">
<input type="hidden" name="_method" value="PUT"/>
<input type="submit" value="提交"/>
</form>
</body>
</html>
```

2、web.xml 中配置 HiddenHttpMethodFilter。

```

<!-- HiddenHttpMethodFilter -->
<filter>
    <filter-name>HiddenHttpMethodFilter</filter-name>
    <filter-class>org.springframework.web.filter.HiddenHttpMethodFilter</filter-
class>
</filter>

<filter-mapping>
    <filter-name>HiddenHttpMethodFilter</filter-name>
    <url-pattern>/*</url-pattern>
</filter-mapping>

```

3、Handler

```

@PutMapping("/update")
@ResponseBody
public String update(HttpServletRequest response){
    response.setCharacterEncoding("UTF-8");
    return "已接收到PUT请求";
}

@DeleteMapping("/delete")
@ResponseBody
public String delete(HttpServletRequest response){
    response.setCharacterEncoding("UTF-8");
    return "已接收到DELETE请求";
}

```

需求分析

- 添加课程，成功则返回全部课程信息。
- 查询课程，通过 id 查询对应课程信息。
- 修改课程，成功则返回修改之后的全部课程信息。
- 删除课程，成功则返回删除之后的全部课程信息。

代码实现

1、JSP

- 添加课程：add.jsp
- 修改课程：edit.jsp
- 课程展示：index.jsp

2、Course 实体类

```
public class Course{
    private Integer id;
    private String name;
    private Double price;
}
```

3、CourseRepository

```
package com.southwind.repository;

import com.southwind.entity.Course;
import org.springframework.stereotype.Repository;

import java.util.Collection;
import java.util.HashMap;
import java.util.Map;

@Repository
public class CourseRepository {
    private Map<Integer, Course> courseMap;

    public CourseRepository() {
        courseMap = new HashMap<>();
        courseMap.put(1, new Course(1, "Java基础", Double.parseDouble("500")));
        courseMap.put(2, new Course(2, "Java高级", Double.parseDouble("600")));
        courseMap.put(3, new Course(3, "企业级框架", Double.parseDouble("700")));
    }

    public Collection<Course> findAll(){
        return courseMap.values();
    }

    public Course findById(Integer id){
        return courseMap.get(id);
    }

    public void saveOrUpdate(Course course){
        courseMap.put(course.getId(), course);
    }

    public void deleteById(Integer id){
        courseMap.remove(id);
    }
}
```

4、CourseController

```

package com.southwind.controller;

import com.southwind.entity.Course;
import com.southwind.repository.CourseRepository;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Controller;
import org.springframework.web.bind.annotation.*;
import org.springframework.web.servlet.ModelAndView;

@Controller
@RequestMapping("/course")
public class CourseController {
    @Autowired
    private CourseRepository courseRepository;

    @PostMapping("/save")
    public String save(Course course){
        courseRepository.saveOrUpdate(course);
        return "redirect:/course/findAll";
    }

    @GetMapping("/findAll")
    public ModelAndView findAll(){
        ModelAndView modelAndView = new ModelAndView();
        modelAndView.setViewName("index");
        modelAndView.addObject("list",courseRepository.findAll());
        return modelAndView;
    }

    @DeleteMapping("/deleteById/{id}")
    public String deleteById(@PathVariable("id") Integer id){
        courseRepository.deleteById(id);
        return "redirect:/course/findAll";
    }

    @GetMapping("/findById/{id}")
    public ModelAndView findById(@PathVariable("id") Integer id){
        ModelAndView modelAndView = new ModelAndView();
        modelAndView.setViewName("edit");
        modelAndView.addObject("courser",courseRepository.findById(id));
        return modelAndView;
    }

    @PutMapping("/update")
    public String update(Course course){
        courseRepository.saveOrUpdate(course);
        return "redirect:/course/findAll";
    }
}

```

5、JSP

save.jsp

```
<%--
    Created by IntelliJ IDEA.
    User: southwind
    Date: 2020-02-11
    Time: 16:48
    To change this template use File | Settings | File Templates.
--%>
<%@ page contentType="text/html; charset=UTF-8" language="java" %>
<html>
<head>
    <title>Title</title>
</head>
<body>
    <form action="/course/save" method="post">
        <table>
            <tr>
                <td>课程编号: </td>
                <td>
                    <input type="text" name="id" />
                </td>
            </tr>
            <tr>
                <td>课程名称: </td>
                <td>
                    <input type="text" name="name" />
                </td>
            </tr>
            <tr>
                <td>课程价格: </td>
                <td>
                    <input type="text" name="price" />
                </td>
            </tr>
            <tr>
                <td>
                    <input type="submit" value="提交" />
                </td>
                <td>
                    <input type="reset" value="重置" />
                </td>
            </tr>
        </table>
    </form>
</body>
```

```
</html>
```

index.jsp

```
<%--
    Created by IntelliJ IDEA.
    User: southwind
    Date: 2020-02-11
    Time: 16:42
    To change this template use File | Settings | File Templates.
--%>
<%@ page contentType="text/html; charset=UTF-8" language="java" %>
<%@ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>
<%@ page isELIgnored="false" %>
<html>
<head>
    <title>Title</title>
</head>
<body>
    <table>
        <tr>
            <th>编号</th>
            <th>名称</th>
            <th>价格</th>
            <th>操作</th>
        </tr>
        <c:forEach items="${list}" var="course">
            <tr>
                <td>${course.id}</td>
                <td>${course.name}</td>
                <td>${course.price}</td>
                <td>
                    <form action="/course/deleteById/${course.id}"
method="post">
                        <input type="hidden" name="_method" value="DELETE"/>
                        <input type="submit" value="删除"/>
                    </form>
                    <a href="/course/findById/${course.id}">修改</a>
                </td>
            </tr>
        </c:forEach>
    </table>
</body>
</html>
```

edit.jsp

```
<%--
```

Created by IntelliJ IDEA.

User: southwind

Date: 2020-02-11

Time: 17:13

To change this template use File | Settings | File Templates.

```
--%>
<%@ page contentType="text/html; charset=UTF-8" language="java" %>
<%@ page isELIgnored="false" %>
<html>
<head>
    <title>Title</title>
</head>
<body>
    <form action="/course/update" method="post">
        <input type="hidden" name="_method" value="PUT"/>
        <table>
            <tr>
                <td>编号:</td>
                <td>
                    <input type="text" name="id" readonly
value="${courser.id}"/>
                </td>
            </tr>
            <tr>
                <td>名称:</td>
                <td>
                    <input type="text" name="name" value="${courser.name}"/>
                </td>
            </tr>
            <tr>
                <td>价格:</td>
                <td>
                    <input type="text" name="price" value="${courser.price}"/>
                </td>
            </tr>
            <tr>
                <td>
                    <input type="submit" value="修改"/>
                </td>
            </tr>
        </table>
    </form>
</body>
</html>
```

Spring MVC实现文件的上传下载

文件上传

单文件上传

1、底层使用的是 Apache fileupload 组件完成上传功能，Spring MVC 只是对其进行了封装，简化开发，pom.xml

```
<dependency>
  <groupId>commons-io</groupId>
  <artifactId>commons-io</artifactId>
  <version>2.6</version>
</dependency>
<dependency>
  <groupId>commons-fileupload</groupId>
  <artifactId>commons-fileupload</artifactId>
  <version>1.3.3</version>
</dependency>
```

2、JSP 页面

- input 的 type 设置为 file
- form 表单的 method 设置为 post
- form 表单的 enctype 设置为 multipart/form-data

```
<%--
  Created by IntelliJ IDEA.
  User: southwind
  Date: 2020-02-11
  Time: 17:28
  To change this template use File | Settings | File Templates.
--%>
<%@ page contentType="text/html; charset=UTF-8" language="java" %>
<%@ page isELIgnored="false" %>
<html>
<head>
  <title>Title</title>
</head>
<body>
  <form action="/file/upload" method="post" enctype="multipart/form-data">
    <input type="file" name="img"/>
    <input type="submit" value="提交"/>
  </form>
  
</body>
</html>
```

Handler

```
@PostMapping("/upload")
```



```

public String upload(@RequestParam("img") MultipartFile img,
HttpServletRequest request) {
    if(img.getSize(>0){
        String path =
request.getSession().getServletContext().getRealPath("file");
        String fileName = img.getOriginalFilename();
        File file = new File(path,fileName);
        try {
            img.transferTo(file);
            request.setAttribute("src","/file/"+fileName);
        } catch (IOException e) {
            e.printStackTrace();
        }
    }
    return "upload";
}

```

springmvc.xml

```

<bean id="multipartResolver"
class="org.springframework.web.multipart.commons.CommonsMultipartResolver">
</bean>

```

多文件上传

JSP

```

<%--
    Created by IntelliJ IDEA.
    User: southwind
    Date: 2020-02-12
    Time: 11:11
    To change this template use File | Settings | File Templates.
--%>
<%@ page contentType="text/html;charset=UTF-8" language="java" %>
<%@ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>
<%@ page isELIgnored="false" %>
<html>
<head>
    <title>Title</title>
</head>
<body>
    <form action="/file/uploads" method="post" enctype="multipart/form-data">
        file1:<input type="file" name="imgs"/><br/>
        file2:<input type="file" name="imgs"/><br/>
        file3:<input type="file" name="imgs"/><br/>
        <input type="submit" value="提交"/>
    </form>

```

```
<c:forEach items="${list}" var="path">
    
</c:forEach>
</body>
</html>
```

Handler

```
@PostMapping("/uploads")
public String uploads(@RequestParam("imgs") MultipartFile[]
imgs,HttpServletRequest request){
    List<String> pathList = new ArrayList<>();
    for(MultipartFile img:imgs){
        if(img.getSize(>0){
            String path =
request.getSession().getServletContext().getRealPath("file");
            String fileName = img.getOriginalFilename();
            File file = new File(path,fileName);
            try {
                img.transferTo(file);
                pathList.add("/file/"+fileName);
            } catch (IOException e) {
                e.printStackTrace();
            }
        }
    }
    request.setAttribute("list",pathList);
    return "uploads";
}
```