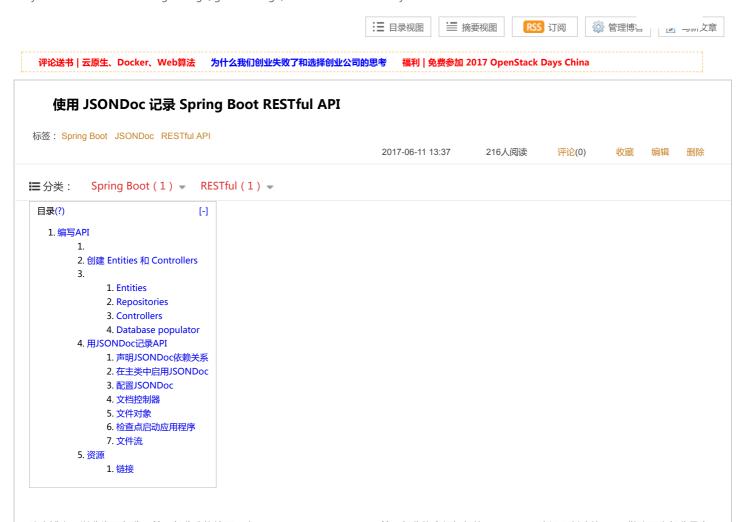
## **Evan**

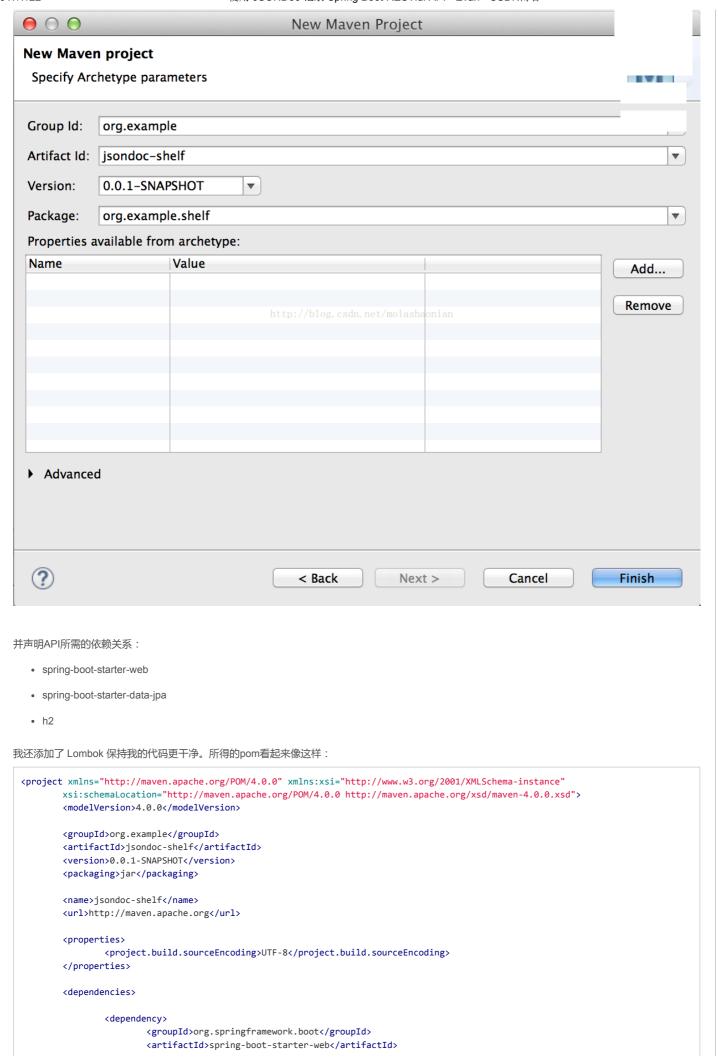
Only let oneself become strong enough, good enough, can afford the life that you want to.



这个博文可以分为两部分:第一部分我将编写一个spring Boot RESTful API,第二部分将介绍如何使用JSONDoc来记录创建的API。做这两个部分最多需要15分钟,因为使用Spring Boot创建一个API非常简单快捷,并且使用JSONDoc Spring Boot启动器和UI webjar进行记录也是如此。我将跳过这个例子的测试创建,因为主要目标是如何记录API而不是编写和测试它。

# 编写API

我们首先根据快速入门的原型创建Maven项目



```
<version>1.2.0.RELEASE
              </dependency>
              <dependency>
                     <groupId>org.springframework.boot
                     <artifactId>spring-boot-starter-data-jpa</artifactId>
                     <version>1.2.0.RELEASE
              </dependency>
              <dependency>
                     <groupId>com.h2database
                     <artifactId>h2</artifactId>
                     <version>1.3.176
              </dependency>
              <dependency>
                     <groupId>org.projectlombok</groupId>
                     <artifactId>lombok</artifactId>
                     <version>1.14.8
              </dependency>
              <dependency>
                     <groupId>junit
                     <artifactId>junit</artifactId>
                     <version>4.11
                     <scope>test</scope>
              </dependency>
       </dependencies>
</project>
```

这个应用程序将是一个管理简单货架的服务的集合。将有两个实体:

- Book
- Author

## 创建 Entities 和 Controllers

为此,我将创建通常的组件来管理持久层和控制器层:

- 一个包名为 model 将包含 Book 和 Author
- 一个包名为 repository 将包含 BookRepository 和 AuthorRepository
- 一个包名为 controller 将包含 BookController 和 AuthorController

对于这个例子,我将跳过 Service 层。我还将创建一个 DatabasePopulator 类,实现 CommandLineRunner ,以便在启动时将在内存数据库中存在一些数据。我们来看看实体,存储库和控制器的代码:

#### Entities

```
package org.example.shelf.model;
import javax.persistence.Column;
import javax.persistence.Entity;
import javax.persistence.GeneratedValue;
import javax.persistence.GenerationType;
import javax.persistence.Id;
import javax.persistence.JoinColumn;
import javax.persistence.ManyToOne;
import lombok.Data;
import lombok.EqualsAndHashCode;
@Entity
@EqualsAndHashCode(exclude = "id")
public class Book {
        @GeneratedValue(strategy = GenerationType.AUTO)
        private Long id;
        @Column(name = "title")
```

```
private String title;

@ManyToOne
@JoinColumn(name = "author_id")
private Author author;
}
```

```
package org.example.shelf.model;
import java.util.ArrayList;
import java.util.List;
import javax.persistence.CascadeType;
import javax.persistence.Column;
import javax.persistence.Entity;
import javax.persistence.FetchType;
import javax.persistence.GeneratedValue;
import javax.persistence.GenerationType;
import javax.persistence.Id;
import javax.persistence.OneToMany;
import lombok.Data;
import lombok.EqualsAndHashCode;
import lombok.NoArgsConstructor;
import lombok.ToString;
import com.fasterxml.jackson.annotation.JsonIgnore;
@Entity
@Data
@NoArgsConstructor
@ToString(exclude = "books")
@EqualsAndHashCode(of = "name")
public class Author {
        @Id
        @GeneratedValue(strategy = GenerationType.AUTO)
        private Long id;
        @Column(name = "name")
        private String name;
        @JsonIgnore
        @OneToMany(mappedBy = "author", fetch = FetchType.LAZY, cascade = CascadeType.ALL)
        private List<Book> books = new ArrayList<Book>();
}
```

## Repositories

```
package org.example.shelf.repository;
import org.example.shelf.model.Book;
import org.springframework.data.jpa.repository.JpaRepository;
public interface BookRepository extends JpaRepository<Book, Long> {
}
```

```
package org.example.shelf.repository;
import org.example.shelf.model.Author;
import org.springframework.data.jpa.repository.JpaRepository;
import org.springframework.stereotype.Repository;
public interface AuthorRepository extends JpaRepository<Author, Long> {
}
```

#### Controllers

```
package org.example.shelf.controller;
import java.util.List;
import org.example.shelf.flow.ShelfFlowConstants;
```

```
import org.example.shelf.model.Book;
import org.example.shelf.repository.BookRepository;
import org.jsondoc.core.annotation.Api;
import org.jsondoc.core.annotation.ApiBodyObject;
import org.jsondoc.core.annotation.ApiMethod;
import org.jsondoc.core.annotation.ApiPathParam;
import org.isondoc.core.annotation.ApiResponseObject;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.http.HttpHeaders;
import org.springframework.http.HttpStatus;
import org.springframework.http.MediaType;
import org.springframework.http.ResponseEntity;
import org.springframework.web.bind.annotation.PathVariable;
import org.springframework.web.bind.annotation.RequestBody;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RequestMethod;
import org.springframework.web.bind.annotation.ResponseStatus;
import org.springframework.web.bind.annotation.RestController;
import\ {\tt org.springframework.web.util.UriComponentsBuilder;}
@RestController
@RequestMapping(value = "/books", produces = MediaType.APPLICATION_JSON_VALUE)
public class BookController {
        @Autowired
        private BookRepository bookRepository;
       @RequestMapping(value = "/{id}", method = RequestMethod.GET)
        public Book findOne(@PathVariable Long id) {
                return bookRepository.findOne(id);
        @RequestMapping(method = RequestMethod.GET)
        public List<Book> findAll() {
                return bookRepository.findAll();
        @RequestMapping(method = RequestMethod.POST, consumes = MediaType.APPLICATION_JSON_VALUE)
        @ResponseStatus(value = HttpStatus.CREATED)
        public ResponseEntity<Void> save(@RequestBody Book book, UriComponentsBuilder uriComponentsBuilder) {
                bookRepository.save(book);
                HttpHeaders headers = new HttpHeaders();
                headers.setLocation(uriComponentsBuilder.path("/books/{id}").buildAndExpand(book.getId()).toUri());
                return new ResponseEntity<Void>(headers, HttpStatus.CREATED);
       }
        @RequestMapping(value = "/{id}", method = RequestMethod.DELETE)
       @ResponseStatus(value = HttpStatus.OK)
        public void delete(@PathVariable Long id) {
                Book book = bookRepository.findOne(id):
                bookRepository.delete(book);
}
```

```
package org.example.shelf.controller;
import java.util.List;
import org.example.shelf.flow.ShelfFlowConstants;
import org.example.shelf.model.Author;
import org.example.shelf.repository.AuthorRepository;
import org.jsondoc.core.annotation.Api;
import org.jsondoc.core.annotation.ApiBodyObject;
import org.jsondoc.core.annotation.ApiMethod;
import org.jsondoc.core.annotation.ApiPathParam;
import org.jsondoc.core.annotation.ApiResponseObject;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.http.HttpHeaders;
import org.springframework.http.HttpStatus;
import org.springframework.http.MediaType;
import org.springframework.http.ResponseEntity;
import org.springframework.web.bind.annotation.PathVariable;
import org.springframework.web.bind.annotation.RequestBody;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RequestMethod;
import org.springframework.web.bind.annotation.ResponseStatus;
```

```
import org.springframework.web.bind.annotation.RestController;
import org.springframework.web.util.UriComponentsBuilder;
@RestController
@RequestMapping(value = "/authors", produces = MediaType.APPLICATION JSON VALUE)
public class AuthorController {
        @Autowired
        private AuthorRepository authorRepository;
        @RequestMapping(value = "/{id}", method = RequestMethod.GET)
        public Author findOne(@PathVariable Long id) {
                return authorRepository.findOne(id);
        @RequestMapping(method = RequestMethod.GET)
        public List<Author> findAll() {
                return authorRepository.findAll();
        @RequestMapping(method = RequestMethod.POST, consumes = MediaType.APPLICATION_JSON_VALUE)
        @ResponseStatus(value = HttpStatus.CREATED)
        public ResponseEntity<Void> save(@RequestBody Author author, UriComponentsBuilder uriComponentsBuilder) {
                authorRepository.save(author);
                HttpHeaders headers = new HttpHeaders();
                headers.setLocation(uriComponentsBuilder.path("/authors/{id}").buildAndExpand(author.getId()).toUri());
                return new ResponseEntity<Void>(headers, HttpStatus.CREATED);
        @RequestMapping(value = "/{id}", method = RequestMethod.DELETE)
        @ResponseStatus(value = HttpStatus.OK)
        public void delete(@PathVariable Long id) {
                Author author = authorRepository.findOne(id);
                authorRepository.delete(author);
}
```

#### Database populator

```
package org.example.shelf;
import org.example.shelf.model.Author;
import org.example.shelf.model.Book;
import org.example.shelf.repository.AuthorRepository;
import org.example.shelf.repository.BookRepository;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.boot.CommandLineRunner;
import org.springframework.context.annotation.Configuration;
@Configuration
public class DatabasePopulator implements CommandLineRunner {
        @Autowired
       private AuthorRepository authorRepository;
        @Autowired
        private BookRepository bookRepository;
        public void run(String... arg0) throws Exception {
                Author horbny = new Author();
                horbny.setId(1L);
                horbny.setName("Nick Horby");
                Author smith = new Author();
                smith.setId(2L);
                smith.setName("Wilbur Smith");
                authorRepository.save(horbny);
                authorRepository.save(smith);
                Book highFidelty = new Book();
                highFidelty.setId(1L);
                highFidelty.setTitle("High fidelty");
                highFidelty.setAuthor(horbny);
                Book aLongWayDown = new Book();
                aLongWayDown.setId(2L);
```

```
aLongWayDown.setTitle("A long way down");
aLongWayDown.setAuthor(horbny);

Book desertGod = new Book();
desertGod.setId(3L);
desertGod.setTitle("Desert god");
desertGod.setAuthor(smith);

bookRepository.save(highFidelty);
bookRepository.save(aLongWayDown);
bookRepository.save(desertGod);
}
```

现在是编写主类来运行应用程序的时候了。 Shelf 在这种情况下, 我会称之为Spring Boot, 这很简单:

```
package org.example.shelf;
import org.springframework.boot.autoconfigure.EnableAutoConfiguration;
import org.springframework.context.annotation.ComponentScan;
import org.springframework.data.jpa.repository.config.EnableJpaRepositories;

@EnableAutoConfiguration
@EnableJpaRepositories
@ComponentScan
public class Shelf {

    public static void main(String[] args) {
        SpringApplication.run(Shelf.class, args);
    }
}
```

通过运行这个类,我们可以实际验证应用程序是否响应请求。您可以通过使用 curl 轻松测试 API 的工作:

```
curl -i http://localhost:8080/books/1
curl -i http://localhost:8080/books

curl -i http://localhost:8080/authors/1
curl -i http://localhost:8080/authors
```

# 用JSONDoc记录API

这是有趣的和新的部分,即使用JSONDoc库来注释代码并自动生成其文档。要做到这一点,你必须声明JSONDoc依赖关系,并在你的类中插入一些代码。让我们看看如何做到这一点:

## 声明JSONDoc依赖关系

只需添加两个依赖关系到pom文件:

## 在主类中启用JSONDoc

使用JSONDoc启动器,您可以通过添加@EnableJSONDoc 到 Shelf 类中来启用文档生成,如下所示:

#### 配置JSONDoc

接下来要做的是配置JSONDoc来扫描您的控制器,对象和流类。要做到这一点,只需添加一些条目到 application.properties 文件

( src/main/resources 如果你没有它创建它)

```
jsondoc.version=1.0
jsondoc.basePath=http://localhost:8080
jsondoc.packages[0]=org.example.shelf.model
jsondoc.packages[1]=org.example.shelf.controller
```

#### 文档控制器

JSONDoc可以从Spring注释中获取几个信息来构建文档。无论如何,它是一个选择加入的过程,这意味着JSONDoc将仅在使用自己的注释注释时才扫描 类和方法。例如,要正确记录 BookController ,这里是如何使用JSONDoc注释:

```
package org.example.shelf.controller;
import java.util.List;
import org.example.shelf.flow.ShelfFlowConstants;
import org.example.shelf.model.Book;
import org.example.shelf.repository.BookRepository;
import org.jsondoc.core.annotation.Api;
import org.jsondoc.core.annotation.ApiBodyObject;
import org.jsondoc.core.annotation.ApiMethod;
import org.jsondoc.core.annotation.ApiPathParam;
import org.jsondoc.core.annotation.ApiResponseObject;
import org.springframework.beans.factory.annotation.Autowired;
{\tt import org.springframework.http.HttpHeaders;}
import org.springframework.http.HttpStatus;
import org.springframework.http.MediaType;
import org.springframework.http.ResponseEntity;
import org.springframework.web.bind.annotation.PathVariable;
import org.springframework.web.bind.annotation.RequestBody;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RequestMethod;
\verb|import| org.springframework.web.bind.annotation.Response Status; \\
import org.springframework.web.bind.annotation.RestController;
import org.springframework.web.util.UriComponentsBuilder;
@RestController
@RequestMapping(value = "/books", produces = MediaType.APPLICATION_JSON_VALUE)
@Api(description = "The books controller", name = "Books services")
public class BookController {
        @Autowired
        private BookRepository bookRepository;
        @RequestMapping(value = "/{id}", method = RequestMethod.GET)
        public @ApiResponseObject Book findOne(@ApiPathParam(name = "id") @PathVariable Long id) {
```

```
return bookRepository.findOne(id);
        @ApiMethod
        @RequestMapping(method = RequestMethod.GET)
        public @ApiResponseObject List<Book> findAll() {
                return bookRepository.findAll();
        @ApiMethod
        @RequestMapping(method = RequestMethod.POST, consumes = MediaType.APPLICATION JSON VALUE)
        @ResponseStatus(value = HttpStatus.CREATED)
        public @ApiResponseObject ResponseEntity<Void> save(@ApiBodyObject @RequestBody Book book, UriComponentsBuilder uriCompo
nentsBuilder) {
                bookRepository.save(book);
                HttpHeaders headers = new HttpHeaders();
            headers.setLocation(uriComponentsBuilder.path("/books/{id}").buildAndExpand(book.getId()).toUri());
                return new ResponseEntity<Void>(headers, HttpStatus.CREATED);
        }
        @ApiMethod
        @RequestMapping(value = "/{id}", method = RequestMethod.DELETE)
        @ResponseStatus(value = HttpStatus.OK)
        public void delete(@ApiPathParam(name = "id") @PathVariable Long id) {
                Book book = bookRepository.findOne(id);
                bookRepository.delete(book);
}
```

同样的 AuthorController。

## 文件对象

接下来要做的就是把一些JSONDoc注释也需要被记录在案,在这种情况下,对象 Book 和 Author。这是 Book 类:

```
package org.example.shelf.model;
import javax.persistence.Column;
import javax.persistence.Entity;
import javax.persistence.GeneratedValue;
import javax.persistence.GenerationType;
import javax.persistence.Id;
import javax.persistence.JoinColumn;
import javax.persistence.ManyToOne;
import org.jsondoc.core.annotation.ApiObject;
import org.jsondoc.core.annotation.ApiObjectField;
import lombok.Data;
import lombok.EqualsAndHashCode;
@Entity
@Data
@EqualsAndHashCode(exclude = "id")
@ApiObject
public class Book {
        @GeneratedValue(strategy = GenerationType.AUTO)
       @ApiObjectField(description = "The book's ID")
       private Long id;
       @Column(name = "title")
       @ApiObjectField(description = "The book's title")
       private String title;
       @ManyToOne
       @JoinColumn(name = "author_id")
       @ApiObjectField(description = "The book's author")
        private Author author;
}
```

而且在这种情况下 Author 也是如此。

## 检查点:启动应用程序

在开始记录流程之前,让我们启动应用程序,看看会发生什么:

- 如果你去 http://localhost:8080/jsondoc 你会看到一个json,这是由JSONDoc生成的,它代表了基于控制器方法和模型对象上的以工作中以工程
- 如果你去 http://localhost:8080/jsondoc-ui.html 你会看到JSONDoc UI。只需复制并粘贴 http://localhost:8080/jsondoc 到输入字段中,并在清晰的用户界面中获取文档

这是一个很好的时机,需要一些时间来探索界面,并在界面上玩API。

## 文件流

按照流程我的意思是一些API方法的后续执行,旨在实现一个目标,即可以购买一本书,或浏览目录并获取图书详细信息。在这种情况下,流程可能涉及几种方法,API用户可能需要知道哪个是正确的调用方法序列来实现目标。在这个例子中,我不能想到有意义的流程,但是让我们假设我想要记录浏览框架的方法顺序,并通过我选择的一本书获取作者的细节,所以这个用例的结果流是就像是:

- 获取书籍清单
- 选择一本书并获得其细节
- 得到这本书的作者

要记录此流程,您只需按照以下步骤操作:

- 1. 创建一个包含应用程序流的类。此类仅用于文档目的,不会在您的应用程序中实际使用。使用注释来注释这个类 @ApiFlowSet ,这使得JSONDoc 了解在构建文档时应该考虑到这个类。
- 2. 在这个类中创建假的方法,注释为 @ApiFlow。方法的正文以及它的返回类型和参数可以是void,因为方法签名服务器只是作为 @ApiFlow 注释的钩
- 3. 决定标识JSONDoc产生文档内的每一个API方法中,例如一个ID的 findAll 方法的 BookController 可有一个像ID BOOK\_FIND\_ALL
- 4. 将这个ID内部ID的 @ApiMethod 注释和内部 api methodid 的 @ApiFlowStep 注解
- 5. 如果将流类放在一个单独的包中,请记住 application.properties 使用该值更新该文件

我们来看看我是怎么做到的 这是持有应用程序流程的类:

这是包含注释中要引用的方法ID的类:

```
package org.example.shelf.flow;

public class ShelfFlowConstants {

    // Book IDs
    public final static String BOOK_FIND_ALL = "BOOK_FIND_ALL";
    public final static String BOOK_FIND_ONE = "BOOK_FIND_ONE";
    public final static String BOOK_SAVE = "BOOK_SAVE";
    public final static String BOOK_DELETE = "BOOK_DELETE";

    // Author IDs
    public final static String AUTHOR_FIND_ALL = "AUTHOR_FIND_ALL";
    public final static String AUTHOR_FIND_ONE = "AUTHOR_FIND_ONE";
    public final static String AUTHOR_SAVE = "AUTHOR_SAVE";
    public final static String AUTHOR_DELETE = "AUTHOR_DELETE";

}
```

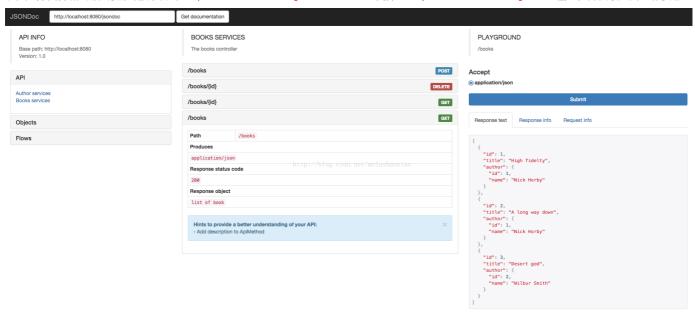
#### 这是 BookController , 指定了id属性后:

```
package org.example.shelf.controller;
import java.util.List;
import org.example.shelf.flow.ShelfFlowConstants;
import org.example.shelf.model.Book;
import org.example.shelf.repository.BookRepository;
import org.jsondoc.core.annotation.Api;
import org.jsondoc.core.annotation.ApiBodyObject;
import org.jsondoc.core.annotation.ApiMethod;
import org.jsondoc.core.annotation.ApiPathParam;
import org.jsondoc.core.annotation.ApiResponseObject;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.http.HttpHeaders;
import org.springframework.http.HttpStatus;
import org.springframework.http.MediaType;
import org.springframework.http.ResponseEntity;
import org.springframework.web.bind.annotation.PathVariable;
import org.springframework.web.bind.annotation.RequestBody;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RequestMethod;
import org.springframework.web.bind.annotation.ResponseStatus;
import org.springframework.web.bind.annotation.RestController;
import org.springframework.web.util.UriComponentsBuilder;
@RequestMapping(value = "/books", produces = MediaType.APPLICATION_JSON_VALUE)
@Api(description = "The books controller", name = "Books services")
public class BookController {
        @Autowired
        private BookRepository bookRepository;
       @ApiMethod(id = ShelfFlowConstants.BOOK_FIND_ONE)
        @RequestMapping(value = "/{id}", method = RequestMethod.GET)
        public @ApiResponseObject Book findOne(@ApiPathParam(name = "id") @PathVariable Long id) {
                return bookRepository.findOne(id);
        }
        @ApiMethod(id = ShelfFlowConstants.BOOK_FIND_ALL)
        @RequestMapping(method = RequestMethod.GET)
       public @ApiResponseObject List<Book> findAll() {
                return bookRepository.findAll();
       @ApiMethod(id = ShelfFlowConstants.BOOK_SAVE)
        @RequestMapping(method = RequestMethod.POST, consumes = MediaType.APPLICATION_JSON_VALUE)
        @ResponseStatus(value = HttpStatus.CREATED)
        public @ApiResponseObject ResponseEntity<Void> save(@ApiBodyObject @RequestBody Book book, UriComponentsBuilder uriCompo
nentsBuilder) {
                bookRepository.save(book);
                HttpHeaders headers = new HttpHeaders();
            headers.setLocation(uriComponentsBuilder.path("/books/{id}").buildAndExpand(book.getId()).toUri());
                return new ResponseEntity<Void>(headers, HttpStatus.CREATED);
       }
       @ApiMethod(id = ShelfFlowConstants.BOOK_DELETE)
```

最后的 application.properties 文件,用新的包:

```
jsondoc.version=1.0
jsondoc.basePath=http://localhost:8080
jsondoc.packages[0]=org.example.shelf.model
jsondoc.packages[1]=org.example.shelf.controller
jsondoc.packages[2]=org.example.shelf.flow
```

现在是再次启动应用程序的时候,转到 http://localhost:8080/jsondoc-ui.html ,插入 http://localhost:8080/jsondoc 输入框并获取文档。请享用!



# 资源

这是项目的结构:

```
▼ 📂 jsondoc–shelf
           ▼ 썔 src/main/java
                        de de la comple de la complexión de la c
                                   DatabasePopulator.java
                                   ▶ J Shelf.java
                       # org.example.shelf.controller
                                   AuthorController.java
                                   ▶ J BookController.java
                       org.example.shelf.flow
                                   ▶ J ShelfFlowConstants.java
                                   ▶ 🚺 ShelfFlows.java
                       org.example.shelf.model
                                   ▶ J Author.java
                                   ▶ J Book.java
                       org.example.shelf.repository
                                   AuthorRepository.java
                                   ▶ BookRepository.java
          ▶ # src/test/java
           application.properties
          ▶ 📥 JRE System Library [J2SE-1.5]
          ▶ ➡ Maven Dependencies
          ▶  src
          target
                     m pom.xml
```

# 链接

您可以在https://github.com/fabiomaffioletti/jsondoc-samples上看到这个和其他示例

您可以在https://github.com/fabiomaffioletti/jsondoc上查看JSONDoc的完整源代码

和http://jsondoc.eu01.aws.af.cm/jsondoc.jsp的演示

顶 踩

- 上一篇 Nginx负载均衡
- 下一篇 Restful 接口传递参数

#### 相关文章推荐

- Spring Boot中使用Swagger2构建强大的RESTful...
- spring3 的restful API RequestMapping介绍
- 微服务架构 Spring Boot中使用Swagger2构建...
- Spring MVC实现的RESTful webservice服务器并...
- restful api的spring实现

- 基于Spring-WS的Restful API的集成测试
- 使用Spring Boot 创建微服务
- Spring Boot学习笔记 整合Swagger2自动生成R...
- Spring Boot使用redis做数据缓存
- Spring boot 中使用swagger-ui实现 restful-api















#### 猜你在找

【直播】机器学习&深度学习系统实战(唐宇迪)

【直播回放】深度学习基础与TensorFlow实践(王琛)

【直播】机器学习之凸优化(马博士)

【直播】机器学习之概率与统计推断(冒教授)

【直播】TensorFlow实战进阶(智亮)

【直播】Kaggle 神器:XGBoost 从基础到实战(冒教授)

【直播】计算机视觉原理及实战(屈教授)

【直播】机器学习之矩阵(黄博士)

【直播】机器学习之数学基础

【直播】深度学习30天系统实训(唐宇迪)

#### 查看评论

暂无评论

#### 发表评论

用户名: molashaonian

评论内容:



提交

\*以上用户言论只代表其个人观点,不代表CSDN网站的观点或立场

公司简介 | 招贤纳士 | 广告服务 | 联系方式 | 版权声明 | 法律顾问 | 问题报告 | 合作伙伴 | 论坛反馈