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学习

# microservices

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# 1:

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## Examples

- CI / CD
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- API
- API
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- 

## API

### Spring REST Docs ◦ ◦ ◦

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maven ◦

pom

```
<dependency>
  <groupId>org.springframework.data</groupId>
  <artifactId>spring-data-rest-webmvc</artifactId>
  <version>2.6.6.RELEASE</version>
</dependency>
```

### build.plugins.asciidoc

```
<plugin>
  <groupId>org.asciidoctor</groupId>
  <artifactId>asciidoctor-maven-plugin</artifactId>
  <version>1.5.3</version>
  <executions>
    <execution>
      <id>generate-docs</id>
      <phase>prepare-package</phase>
      <goals>
        <goal>process-asciidoc</goal>
      </goals>
      <configuration>
        <backend>html</backend>
        <doctype>book</doctype>
      </configuration>
    </execution>
  </executions>
</plugin>
```

```

    </executions>
    <dependencies>
      <dependency>
        <groupId>org.springframework.restdocs</groupId>
        <artifactId>spring-restdocs-asciidoctor</artifactId>
        <version>1.2.0.RELEASE</version>
      </dependency>
    </dependencies>
  </plugin>

```

```

package com.hospital.user.service.controller;

import org.springframework.hateoas.Resource;
import org.springframework.http.HttpStatus;
import org.springframework.http.MediaType;
import org.springframework.http.ResponseEntity;
import org.springframework.security.crypto.bcrypt.BCryptPasswordEncoder;
import org.springframework.stereotype.Controller;
import org.springframework.web.bind.annotation.PathVariable;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RequestMethod;

import com.hospital.user.service.entity.User;
import com.hospital.user.service.exception.UserNotFoundException;
import com.hospital.user.service.repository.UserCrudRepository;
import com.hospital.user.service.resource.assembler.UserResourceAssembler;

@Controller
@RequestMapping("/api/user")
public class SampleController {

    final UserCrudRepository userRepository;

    final UserResourceAssembler userResourceAssembler;

    final BCryptPasswordEncoder passwordEncoder;

    public SampleController(UserCrudRepository userCrudRepository, UserResourceAssembler
userResourceAssembler, BCryptPasswordEncoder passwordEncoder) {
        this.userRepository = userCrudRepository;
        this.userResourceAssembler = userResourceAssembler;
        this.passwordEncoder = passwordEncoder;
    }

    @RequestMapping(method = RequestMethod.GET, value =("/{userId}", produces = {
MediaType.APPLICATION_JSON_VALUE})
    ResponseEntity<Resource<User>> getUser(@PathVariable String userId) {
        User user = (User) this.userRepository.findOne(userId);
        if(user==null) {
            throw new UserNotFoundException("No record found for userid"+ userId);
        }
        Resource<User> resource = this.userResourceAssembler.toResource(user);
        return new ResponseEntity<Resource<User>>(resource, HttpStatus.OK);
    }
}

```

```

package com.hospital.user.service;

```

```

import org.junit.Before;
import org.junit.Rule;
import org.junit.Test;
import org.junit.runner.RunWith;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.boot.test.context.SpringBootTest;
import org.springframework.context.annotation.ComponentScan;
import org.springframework.restdocs.JUnitRestDocumentation;
import org.springframework.restdocs.mockmvc.RestDocumentationResultHandler;
import org.springframework.test.context.junit4.SpringJUnit4ClassRunner;
import org.springframework.test.context.web.WebAppConfiguration;
import org.springframework.test.web.servlet.MockMvc;
import org.springframework.test.web.servlet.setup.MockMvcBuilders;
import org.springframework.web.context.WebApplicationContext;
import org.springframework.web.servlet.config.annotation.EnableWebMvc;

import static org.springframework.restdocs.operation.preprocess.Preprocessors.prettyPrint;
import static
org.springframework.restdocs.operation.preprocess.Preprocessors.preprocessRequest;

```

**import static**

**org.springframework.restdocs.operation.preprocess.Preprocessors.preprocessResponse;**

```

import static org.springframework.restdocs.mockmvc.MockMvcRestDocumentation.document;
import static
org.springframework.restdocs.mockmvc.MockMvcRestDocumentation.documentationConfiguration;

import static org.springframework.test.web.servlet.result.MockMvcResultMatchers.status;

import static org.springframework.restdocs.mockmvc.RestDocumentationRequestBuilders.get;

import static org.springframework.restdocs.headers.HeaderDocumentation.headerWithName;
import static org.springframework.restdocs.headers.HeaderDocumentation.responseHeaders;

import static org.springframework.restdocs.payload.PayloadDocumentation.fieldWithPath;
import static org.springframework.restdocs.payload.PayloadDocumentation.responseFields;

@RunWith(SpringJUnit4ClassRunner.class)
@WebAppConfiguration
@EnableWebMvc
@ComponentScan( basePackages = { "com.hospital.user.service" } )
@SpringBootTest
public class SampleControllerTest {

private RestDocumentationResultHandler documentationHandler;

@Rule public final JUnitRestDocumentation restDocumentation = new
JUnitRestDocumentation("target/generated-snippets");

@Autowired private WebApplicationContext context;
private MockMvc mockMvc;

@Before
public void setUp(){

this.documentationHandler = document("{method-name}", //this will create files with
the test method name
preprocessRequest(prettyPrint()), // to print the request

```

```

        preprocessResponse(prettyPrint());

        this.mockMvc = MockMvcBuilders.webApplicationContextSetup(this.context)
            .apply(documentationConfiguration(this.restDocumentation)
                .uris()
                //withScheme("https") Specify this for https
                .withHost("recruitforceuserservice") //Define the host name
                .withPort(8443)
            )
            .alwaysDo(this.documentationHandler)
            .build();
    }

    @Test
    public void getUser() throws Exception {
        // tag::links[]

        this.mockMvc.perform(get("/api/user/"+ "591310c3d5eb3a37183ab0d3").header("Authorization",
            "Bearer
            eyJhbGciOiJIUzUxMiJ9.eyJzdWIiOiJiaGFzZDhhaW5uaXRpc2gxOSIsInJvbGVzIjpbIkFETU10I10sImZcyI6Imh0dHA6Ly9ob3
            .andExpect(status().isOk())
            .andDo(this.documentationHandler.document(

                responseHeaders(
                    headerWithName("Content-Type").description("The Content-Type
of the payload: `application/json`") // Asserts that the response should have this header.
                ),

                responseFields(
                    fieldWithPath("username").description("Unique name for the
record"), // Asserts that the response should have this field
                    fieldWithPath("password").description("password of the user"),
                    fieldWithPath("securityAnswer").description("Security answer
which would be used to validate the user while the password is reset."),
                    fieldWithPath("securityQuestion").description("Security
question to reset the password"),
                    fieldWithPath("email").description("Email of the user"),
                    fieldWithPath("roles").description("Assigned roles of the
user"),
                    fieldWithPath("id").description("Unique identifier of an
user"),
                    fieldWithPath("_links").ignored()
                )
            ));
    }
}
}

```

[http //docs.spring.io/spring-restdocs/docs/current/reference/html5/](http://docs.spring.io/spring-restdocs/docs/current/reference/html5/)

## API

### Spring REST Docs

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maven

## pom

```
<dependency>
  <groupId>org.springframework.data</groupId>
  <artifactId>spring-data-rest-webmvc</artifactId>
  <version>2.6.6.RELEASE</version>
</dependency>
```

## ASCIIBuild.pugin

```
<plugin>
  <groupId>org.asciidoctor</groupId>
  <artifactId>asciidoctor-maven-plugin</artifactId>
  <version>1.5.3</version>
  <executions>
    <execution>
      <id>generate-docs</id>
      <phase>prepare-package</phase>
      <goals>
        <goal>process-asciidoc</goal>
      </goals>
      <configuration>
        <backend>html</backend>
        <doctype>book</doctype>
      </configuration>
    </execution>
  </executions>
  <dependencies>
    <dependency>
      <groupId>org.springframework.restdocs</groupId>
      <artifactId>spring-restdocs-asciidoctor</artifactId>
      <version>1.2.0.RELEASE</version>
    </dependency>
  </dependencies>
</plugin>
```

```
package com.hospital.user.service.controller;

import org.springframework.hateoas.Resource;
import org.springframework.http.HttpStatus;
import org.springframework.http.MediaType;
import org.springframework.http.ResponseEntity;
import org.springframework.security.crypto.bcrypt.BCryptPasswordEncoder;
import org.springframework.stereotype.Controller;
import org.springframework.web.bind.annotation.PathVariable;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RequestMethod;

import com.hospital.user.service.entity.User;
import com.hospital.user.service.exception.UserNotFoundException;
import com.hospital.user.service.repository.UserCrudRepository;
import com.hospital.user.service.resource.assembler.UserResourceAssembler;

@Controller
@RequestMapping("/api/user")
public class SampleController {
```



```

final UserCrudRepository userRepository;

final UserResourceAssembler userResourceAssembler;

final BCryptPasswordEncoder passwordEncoder;

public SampleController(UserCrudRepository userCrudRepository, UserResourceAssembler
userResourceAssembler, BCryptPasswordEncoder passwordEncoder){
    this.userRepository = userCrudRepository;
    this.userResourceAssembler = userResourceAssembler;
    this.passwordEncoder = passwordEncoder;
}

@RequestMapping(method = RequestMethod.GET, value =("/{userId}", produces = {
MediaType.APPLICATION_JSON_VALUE})
ResponseEntity<Resource<User>> getUser(@PathVariable String userId){
    User user = (User) this.userRepository.findOne(userId);
    if(user==null){
        throw new UserNotFoundException("No record found for userid"+ userId);
    }
    Resource<User> resource = this.userResourceAssembler.toResource(user);
    return new ResponseEntity<Resource<User>>(resource, HttpStatus.OK);
}
}
}

```

```

package com.hospital.user.service;

import org.junit.Before;
import org.junit.Rule;
import org.junit.Test;
import org.junit.runner.RunWith;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.boot.test.context.SpringBootTest;
import org.springframework.context.annotation.ComponentScan;
import org.springframework.restdocs.JUnitRestDocumentation;
import org.springframework.restdocs.mockmvc.RestDocumentationResultHandler;
import org.springframework.test.context.junit4.SpringJUnit4ClassRunner;
import org.springframework.test.context.web.WebAppConfiguration;
import org.springframework.test.web.servlet.MockMvc;
import org.springframework.test.web.servlet.setup.MockMvcBuilders;
import org.springframework.web.context.WebApplicationContext;
import org.springframework.web.servlet.config.annotation.EnableWebMvc;

import static org.springframework.restdocs.operation.preprocess.Preprocessors.prettyPrint;
import static
org.springframework.restdocs.operation.preprocess.Preprocessors.preprocessRequest;
import static
org.springframework.restdocs.operation.preprocess.Preprocessors.preprocessResponse;

import static org.springframework.restdocs.mockmvc.MockMvcRestDocumentation.document;
import static
org.springframework.restdocs.mockmvc.MockMvcRestDocumentation.documentationConfiguration;

import static org.springframework.test.web.servlet.result.MockMvcResultMatchers.status;

```

```

import static org.springframework.restdocs.mockmvc.RestDocumentationRequestBuilders.get;

import static org.springframework.restdocs.headers.HeaderDocumentation.headerWithName;
import static org.springframework.restdocs.headers.HeaderDocumentation.responseHeaders;

import static org.springframework.restdocs.payload.PayloadDocumentation.fieldWithPath;
import static org.springframework.restdocs.payload.PayloadDocumentation.responseFields;

@RunWith(SpringJUnit4ClassRunner.class)
@WebAppConfiguration
@EnableWebMvc
@ComponentScan( basePackages = { "com.hospital.user.service" } )
@SpringBootTest
public class SampleControllerTest {

private RestDocumentationResultHandler documentationHandler;

@Rule public final JUnitRestDocumentation restDocumentation = new
JUnitRestDocumentation("target/generated-snippets");

@Autowired private WebApplicationContext context;
private MockMvc mockMvc;

@Before
public void setUp(){

this.documentationHandler = document("{method-name}", //Documents would be generated
by the test method name.
preprocessRequest(prettyPrint()), //To print request
preprocessResponse(prettyPrint()));

this.mockMvc = MockMvcBuilders.webAppContextSetup(this.context)
.apply(documentationConfiguration(this.restDocumentation)
.uris()
//.withScheme("https") Specify this for https
.withHost("recruitforceuserservice") //To use the hostname
.withPort(8443)
)
.alwaysDo(this.documentationHandler)
.build();
}

@Test
public void getUser() throws Exception {
// tag::links[]

this.mockMvc.perform(get("/api/user/"+ "591310c3d5eb3a37183ab0d3").header("Authorization",
"Bearer
eyJhbGciOiJIUzUxMiJ9.eyJzdWIiOiJiaGFyZDhha15uaXRpc2gxOSIsInJvbGVzIjpbIkFETU1OI10sImZcyI6Imh0dHA6Ly9ob3
.andExpect(status().isOk())
.andDo(this.documentationHandler.document(

responseHeaders(
headerWithName("Content-Type").description("The Content-Type
of the payload: `application/json`")//Asserts that the response has this header.
),

responseFields(
fieldWithPath("username").description("Unique name for the
record"), //Asserts that the response has this field.

```

```

        fieldWithPath("password").description("password of the user"),
        fieldWithPath("securityAnswer").description("Security answer
which would be used to validate the user while the password is reset."),
        fieldWithPath("securityQuestion").description("Security
question to reset the password"),
        fieldWithPath("email").description("Email of the user"),
        fieldWithPath("roles").description("Assigned roles of the
user"),
        fieldWithPath("id").description("Unique identifier of an
user"),
        fieldWithPath("_links").ignored()
    )
    });
}
}

```

```

> src
  target
    generated-docs
    generated-snippets
      get-user
        curl-request.adoc
        http-request.adoc
        http-response.adoc
        httpie-request.adoc
        response-fields.adoc
        response-headers.adoc

```

src / main / asciidocsadocdoc . doc

```

[[resources]]
= Resources

User: Have the information about an User. It has following fields:

include::{snippets}/get-user/response-fields.adoc[]

[[resources-user]]
== User

The User resources has all the information about the application user. This resource
is being used to perform all CRUD operations on User entity.

[[resources-user-retrieve]]
=== Retrieve User

A `GET` request gets a User.

operation::get-user[snippets='response-fields,curl-request,http-response']

```

## Table of Contents

*Overview*

HTTP verbs

HTTP status codes

Headers

Hypermedia

*Resources*

User

Retrieve User

Response fields

Example request

Example response

Links

## Retrieve User

A `GET` request gets a

## Response fields

Path
username
password
securityAnswer
securityQuestion
email
roles
id

# Table of Contents

*Overview*

HTTP verbs

HTTP status codes

Headers

Hypermedia

*Resources*

User

Retrieve User

Response fields

Example request

Example response

Links

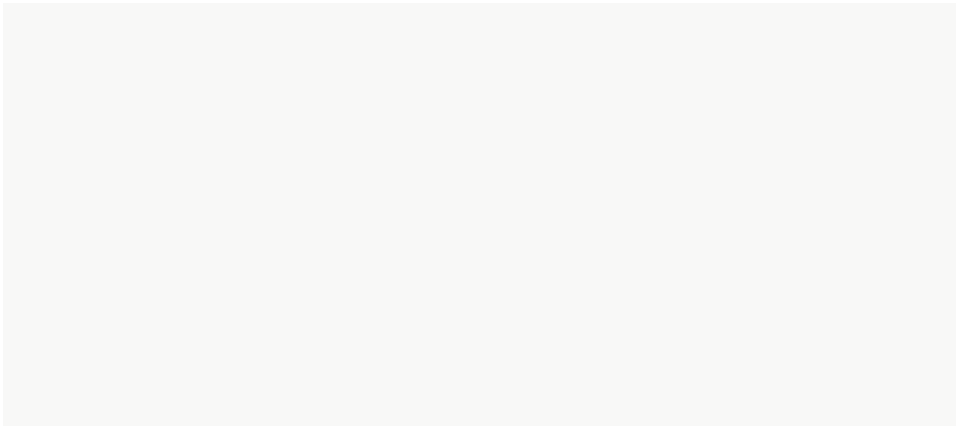
## Example request

```
$ curl 'http://r  
'Authorization:  
eyJhbGciOiJIUzUx  
h0dHA6Ly9ob3NwaX  
IHdJjaaodsIzKX4y
```

## Example response

```
HTTP/1.1 200 OK  
Content-Type: ap  
Content-Length:
```

```
{  
  "password" : "  
  "securityQuest  
  "securityAnsw  
  "id" : "591310  
  "username" : "  
  "email" : "bha  
  "roles" : [ "A  
  "_links" : {  
    "self" : {
```



```
"self" : {  
  "href" :  
  }  
}  
}
```

maven。 /。

。

<https://riptutorial.com/zh-CN/microservices/topic/7719/>

## 2: API

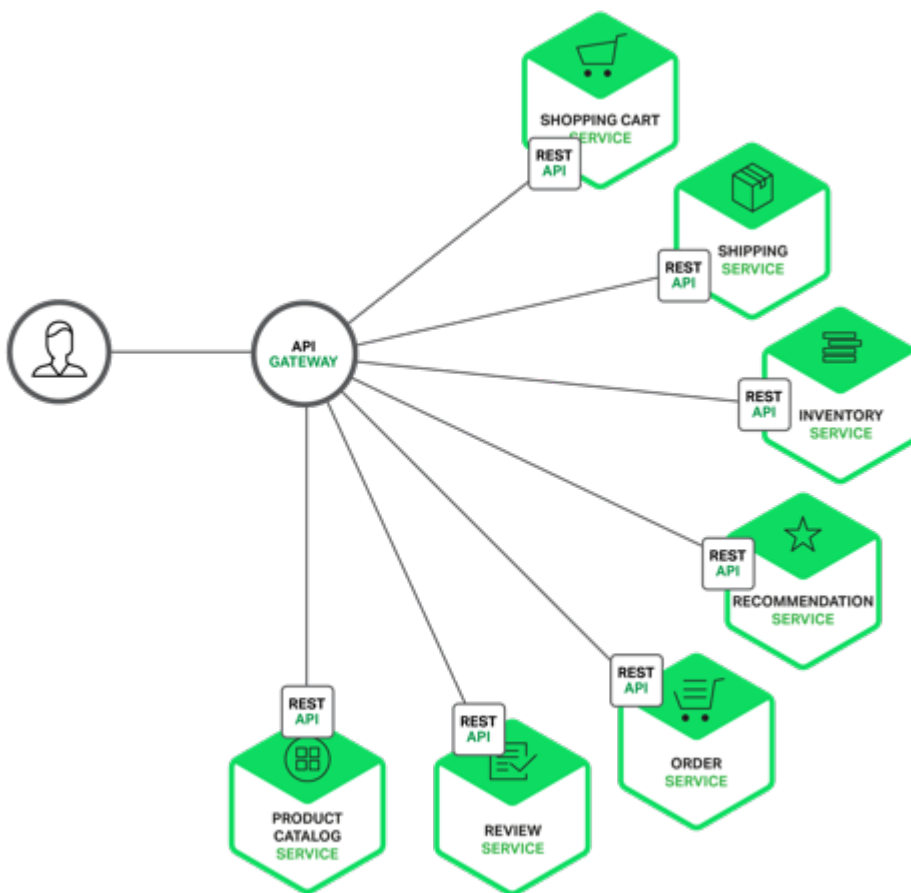
◦ ◦

API ◦

◦ ◦ ◦

### Examples

◦ APIEdge◦



API ◦ URLAPI ◦ Miroservice ◦ API ◦

API <https://riptutorial.com/zh-CN/microservices/topic/10904/api>

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S. No		Contributors
1		<a href="#">Community</a> , <a href="#">Dinusha</a> , <a href="#">mohan08p</a> , <a href="#">Nitish Bhardwaj</a>
2	API	<a href="#">Nitish Bhardwaj</a>