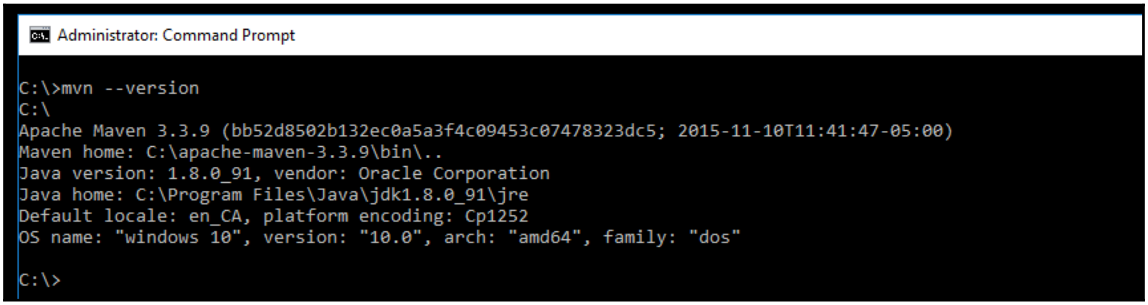
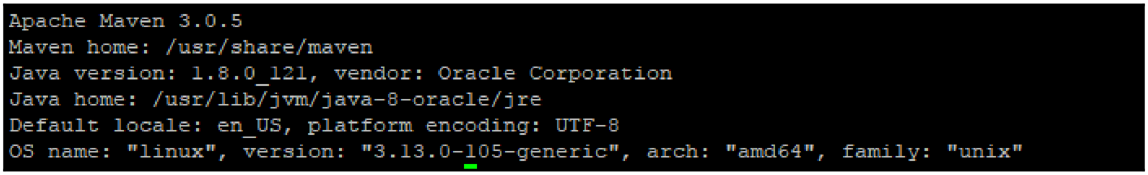
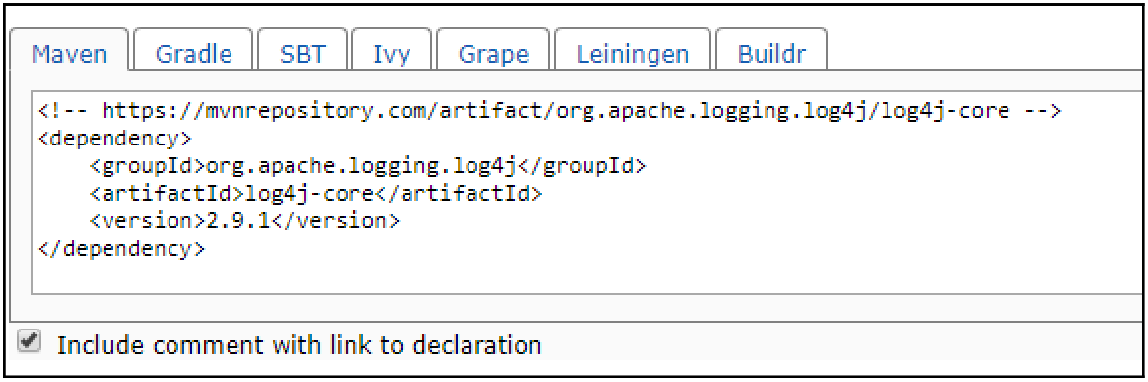
Chapter 2: Building RESTful Web Services in Spring 5 with Maven



```
C:\>mvn --version
C:\
Apache Maven 3.3.9 (bb52d8502b132ec0a5a3f4c09453c07478323dc5; 2015-11-10T11:41:47-05:00)
Maven home: C:\apache-maven-3.3.9\bin\..
Java version: 1.8.0_91, vendor: Oracle Corporation
Java home: C:\Program Files\Java\jdk1.8.0_91\jre
Default locale: en_CA, platform encoding: Cp1252
OS name: "windows 10", version: "10.0", arch: "amd64", family: "dos"

C:\>
```

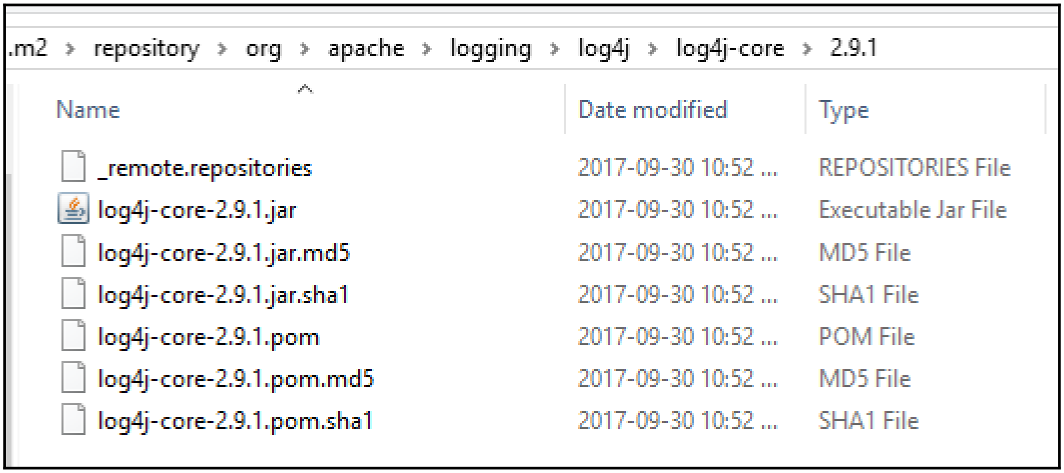


```
Apache Maven 3.0.5
Maven home: /usr/share/maven
Java version: 1.8.0_121, vendor: Oracle Corporation
Java home: /usr/lib/jvm/java-8-oracle/jre
Default locale: en_US, platform encoding: UTF-8
OS name: "linux", version: "3.13.0-105-generic", arch: "amd64", family: "unix"
```



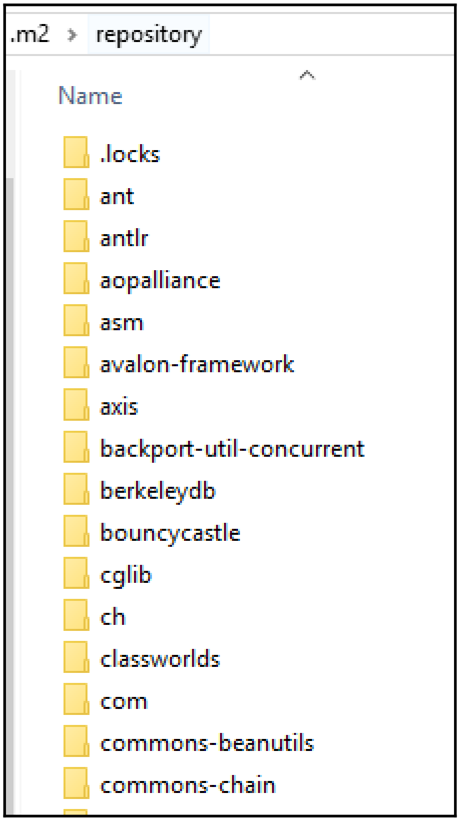
```
<!-- https://mvnrepository.com/artifact/org.apache.logging.log4j/log4j-core -->
<dependency>
    <groupId>org.apache.logging.log4j</groupId>
    <artifactId>log4j-core</artifactId>
    <version>2.9.1</version>
</dependency>
```

☑ Include comment with link to declaration



.m2 › repository › org › apache › logging › log4j › log4j-core › 2.9.1

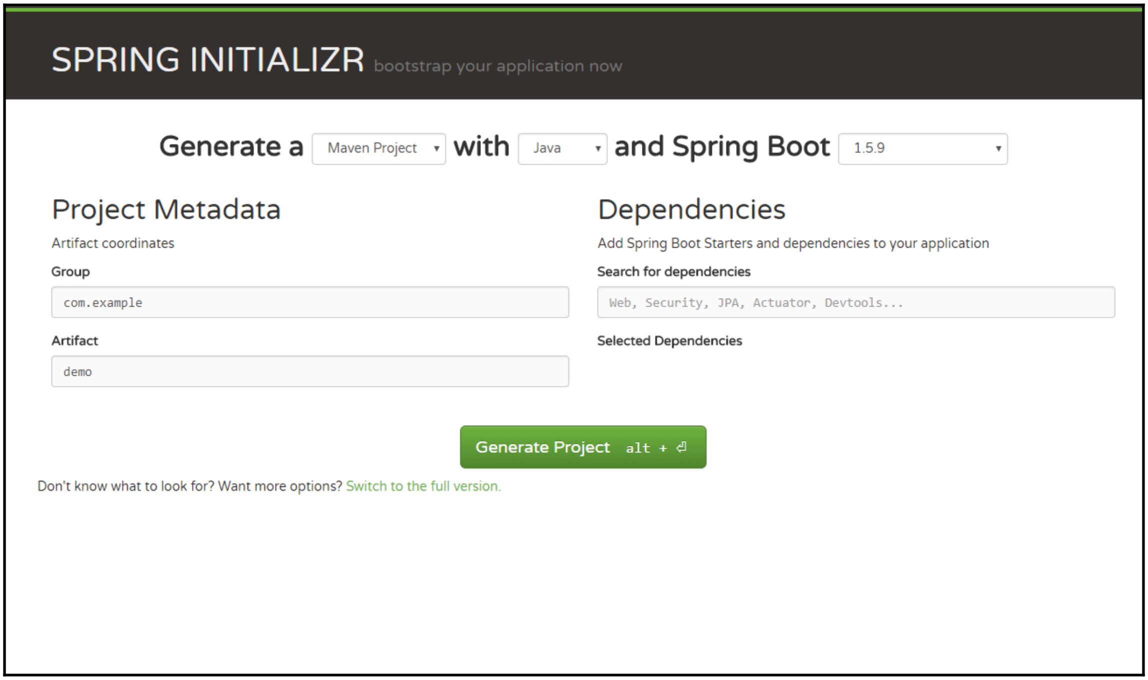
Name	Date modified	Type
_remote.repositories	2017-09-30 10:52 ...	REPOSITORIES File
log4j-core-2.9.1.jar	2017-09-30 10:52 ...	Executable Jar File
log4j-core-2.9.1.jar.md5	2017-09-30 10:52 ...	MD5 File
log4j-core-2.9.1.jar.sha1	2017-09-30 10:52 ...	SHA1 File
log4j-core-2.9.1.pom	2017-09-30 10:52 ...	POM File
log4j-core-2.9.1.pom.md5	2017-09-30 10:52 ...	MD5 File
log4j-core-2.9.1.pom.sha1	2017-09-30 10:52 ...	SHA1 File



.m2 › repository

Name

.locks
ant
antlr
aopalliance
asm
avalon-framework
axis
backport-util-concurrent
berkeleydb
bouncycastle
cglib
ch
classworlds
com
commons-beanutils
commons-chain



SPRING INITIALIZR bootstrap your application now

Generate a Maven Project with Java and Spring Boot 1.5.9

Project Metadata

Artifact coordinates

Group: com.example

Artifact: demo

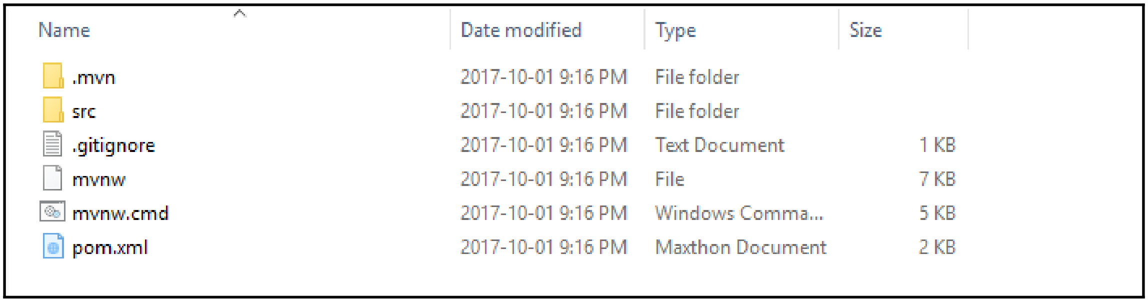
Dependencies

Add Spring Boot Starters and dependencies to your application

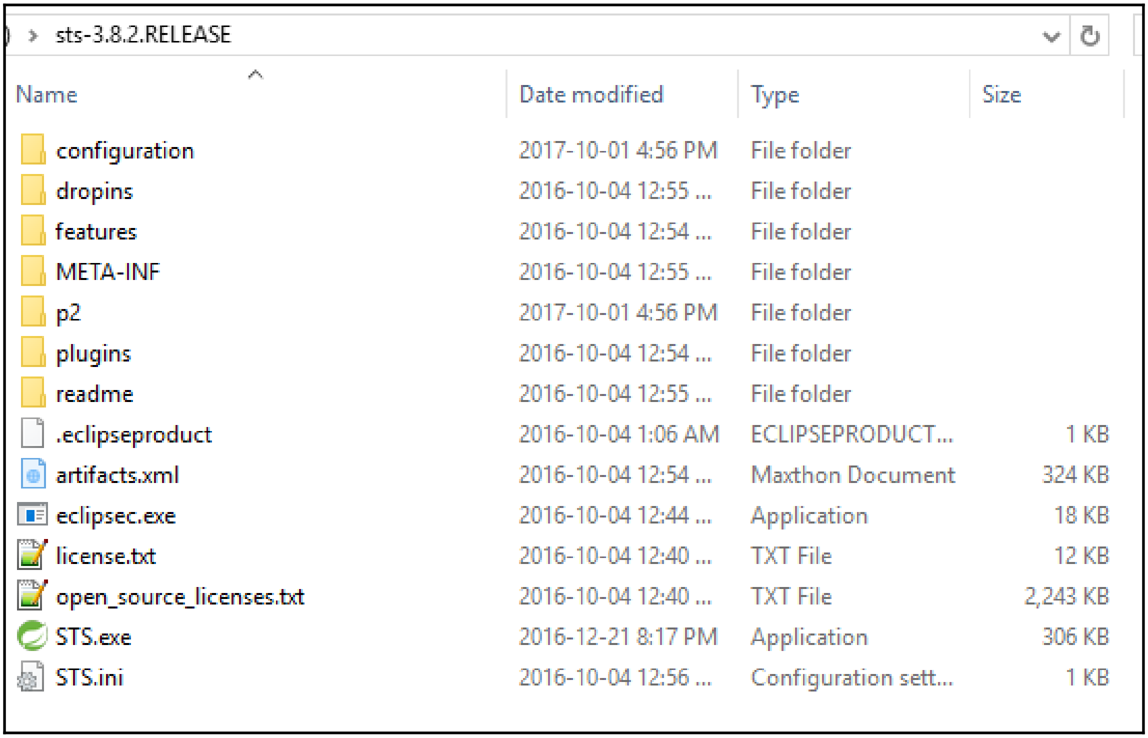
Search for dependencies: Web, Security, JPA, Actuator, Devtools...

Selected Dependencies

Don't know what to look for? Want more options? Switch to the full version.

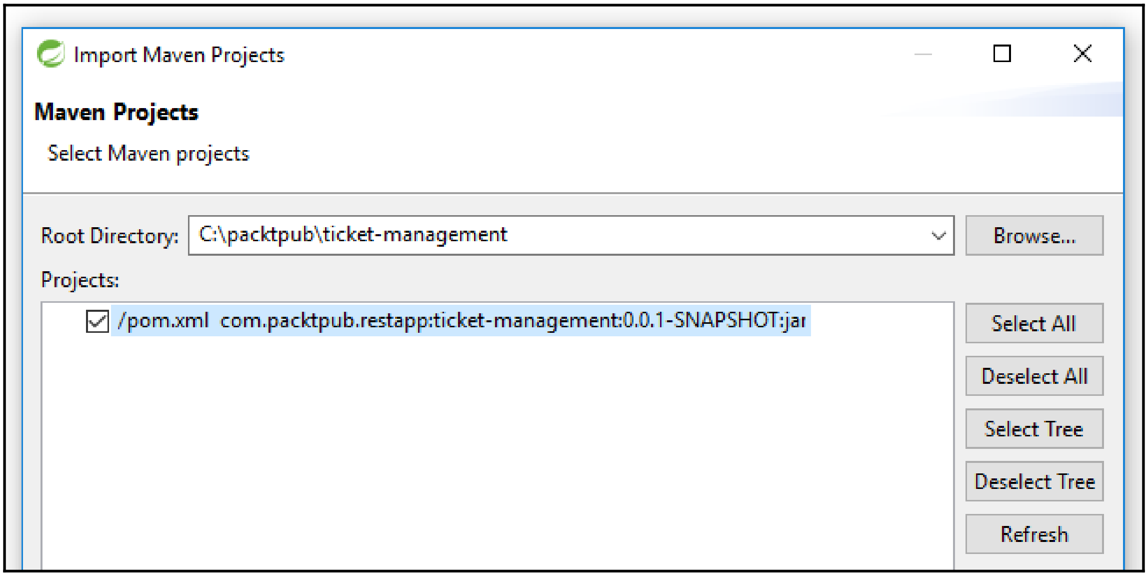


Name	Date modified	Type	Size
.mvn	2017-10-01 9:16 PM	File folder	
src	2017-10-01 9:16 PM	File folder	
.gitignore	2017-10-01 9:16 PM	Text Document	1 KB
mvnw	2017-10-01 9:16 PM	File	7 KB
mvnw.cmd	2017-10-01 9:16 PM	Windows Comma...	5 KB
pom.xml	2017-10-01 9:16 PM	Maxthon Document	2 KB



sts-3.8.2.RELEASE

Name	Date modified	Type	Size
configuration	2017-10-01 4:56 PM	File folder	
dropins	2016-10-04 12:55 ...	File folder	
features	2016-10-04 12:54 ...	File folder	
META-INF	2016-10-04 12:55 ...	File folder	
p2	2017-10-01 4:56 PM	File folder	
plugins	2016-10-04 12:54 ...	File folder	
readme	2016-10-04 12:55 ...	File folder	
.eclipseproduct	2016-10-04 1:06 AM	ECLIPSEPRODUCT...	1 KB
artifacts.xml	2016-10-04 12:54 ...	Maxthon Document	324 KB
eclipsec.exe	2016-10-04 12:44 ...	Application	18 KB
license.txt	2016-10-04 12:40 ...	TXT File	12 KB
open_source_licenses.txt	2016-10-04 12:40 ...	TXT File	2,243 KB
STS.exe	2016-12-21 8:17 PM	Application	306 KB
STS.ini	2016-10-04 12:56 ...	Configuration sett...	1 KB



Import Maven Projects

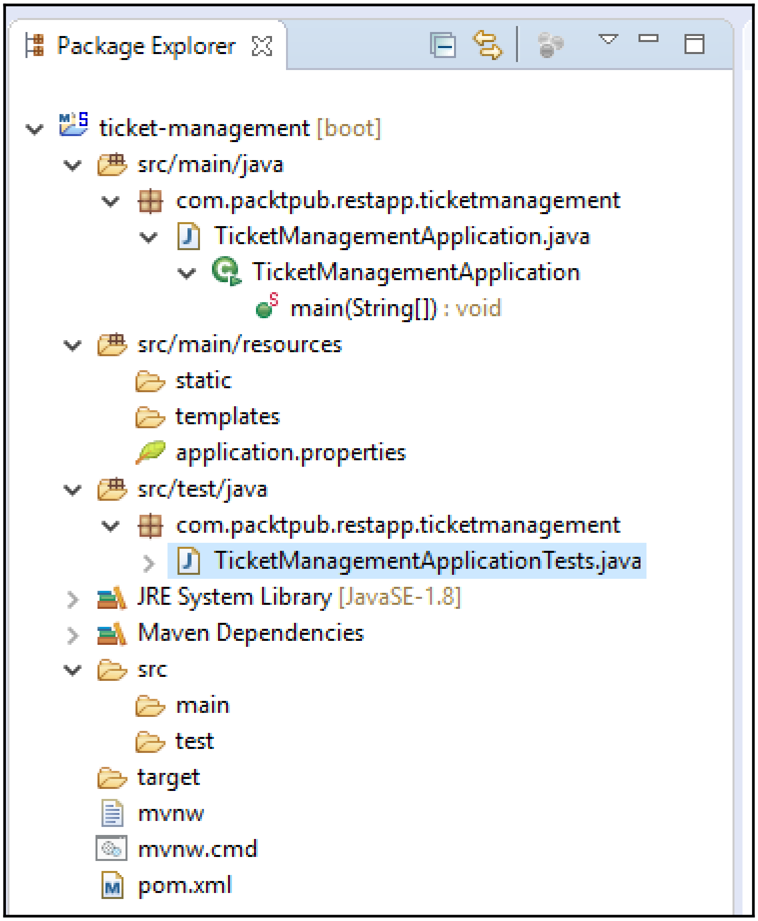
Maven Projects

Select Maven projects

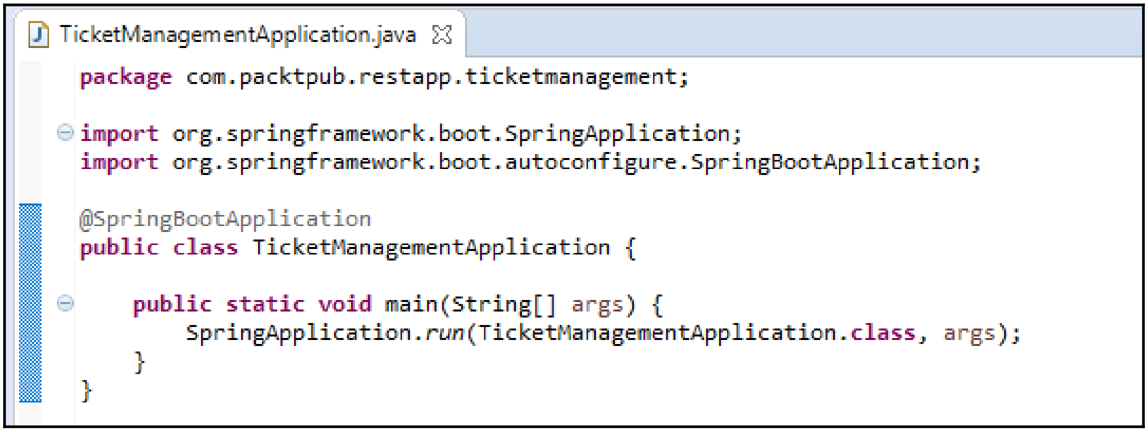
Root Directory: C:\packtpub\ticket-management

Projects:

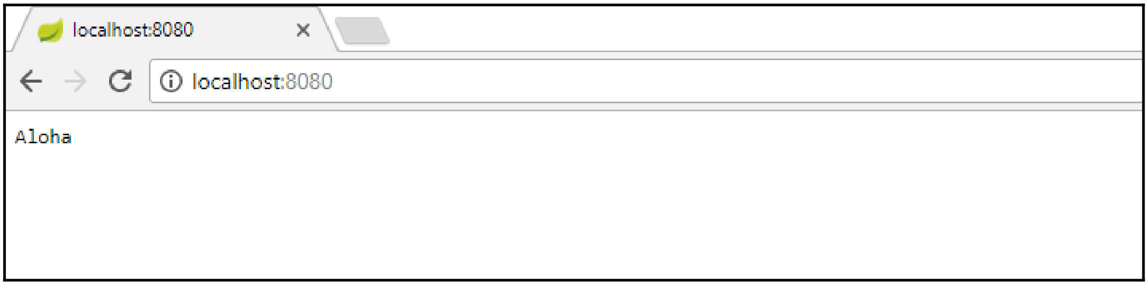
☑ /pom.xml com.packtpub.restapp:ticket-management:0.0.1-SNAPSHOT:jar



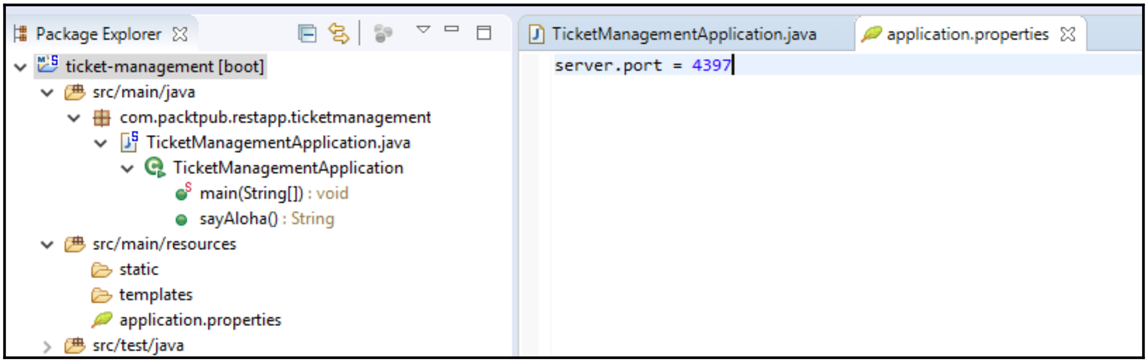
```
ticket-management [boot]
    src/main/java
        com.packtpub.restapp.ticketmanagement
            TicketManagementApplication.java
                TicketManagementApplication
                    main(String[]) : void
    src/main/resources
        static
        templates
        application.properties
    src/test/java
        com.packtpub.restapp.ticketmanagement
            TicketManagementApplicationTests.java
    JRE System Library [JavaSE-1.8]
    Maven Dependencies
    src
        main
        test
    target
    mvnw
    mvnw.cmd
    pom.xml
```



```java
package com.packtpub.restapp.ticketmanagement;

import org.springframework.boot.SpringApplication;
import org.springframework.boot.autoconfigure.SpringBootApplication;

@SpringBootApplication
public class TicketManagementApplication {

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

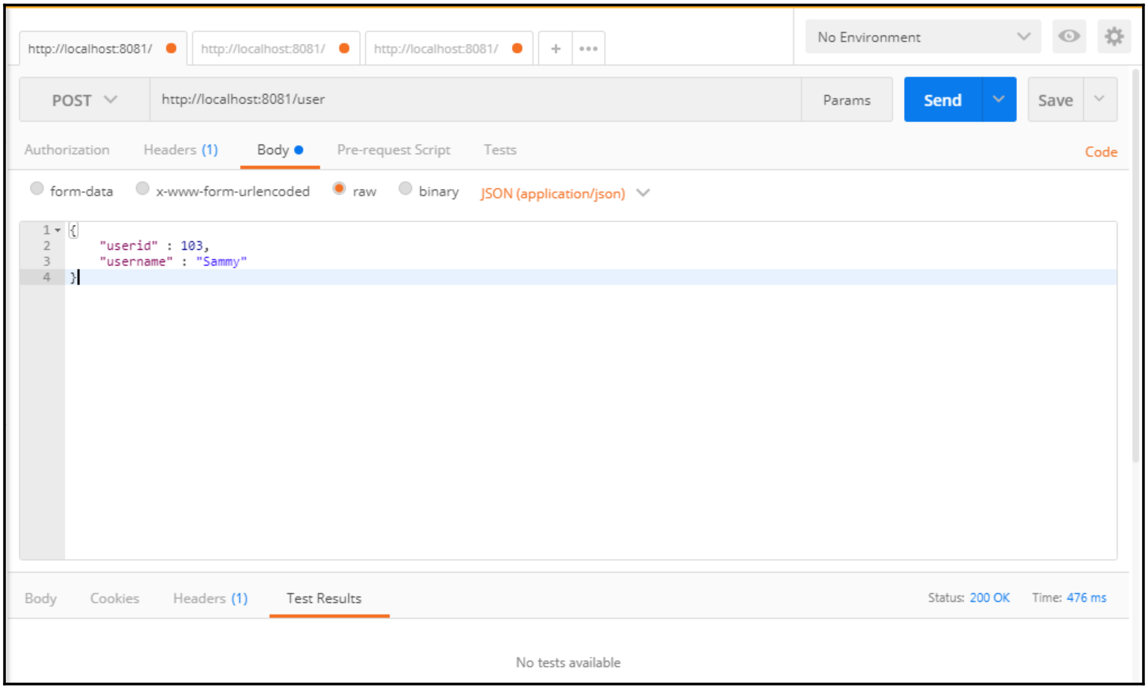


```
Aloha
```



```
server.port = 4397
```

Chapter 4: CRUD Operations in Spring REST



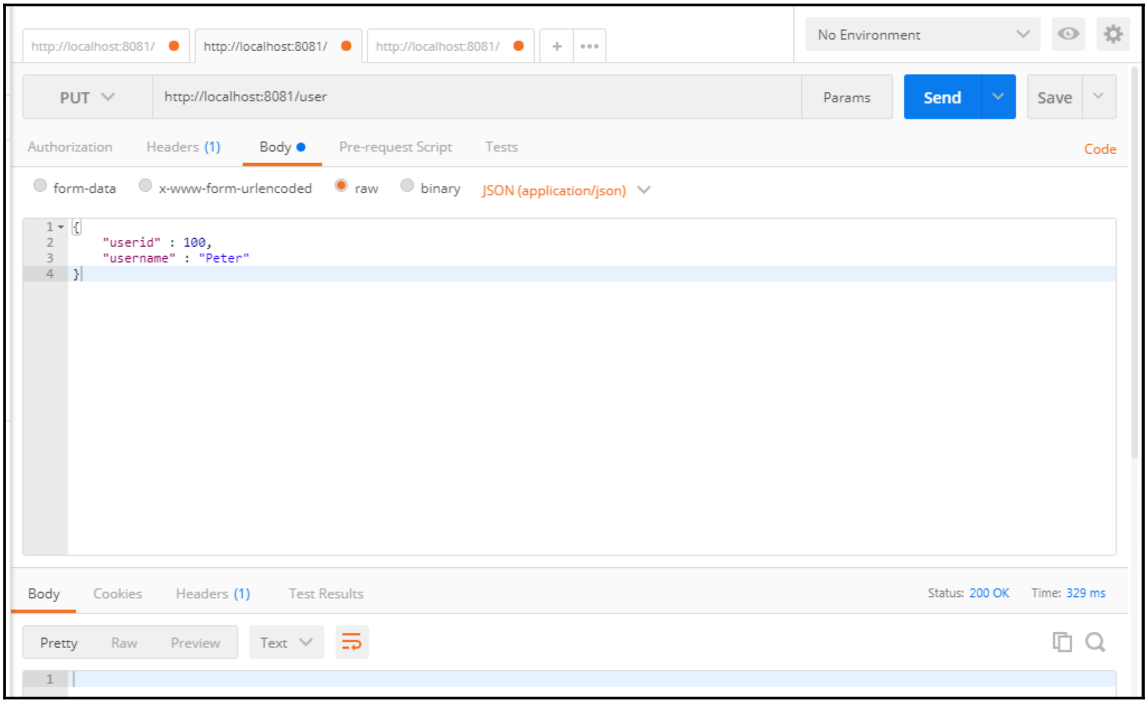
POST http://localhost:8081/user

● raw JSON (application/json)

```
{
    "userid" : 103,
    "username" : "Sammy"
}
```

Status: 200 OK Time: 476 ms

No tests available



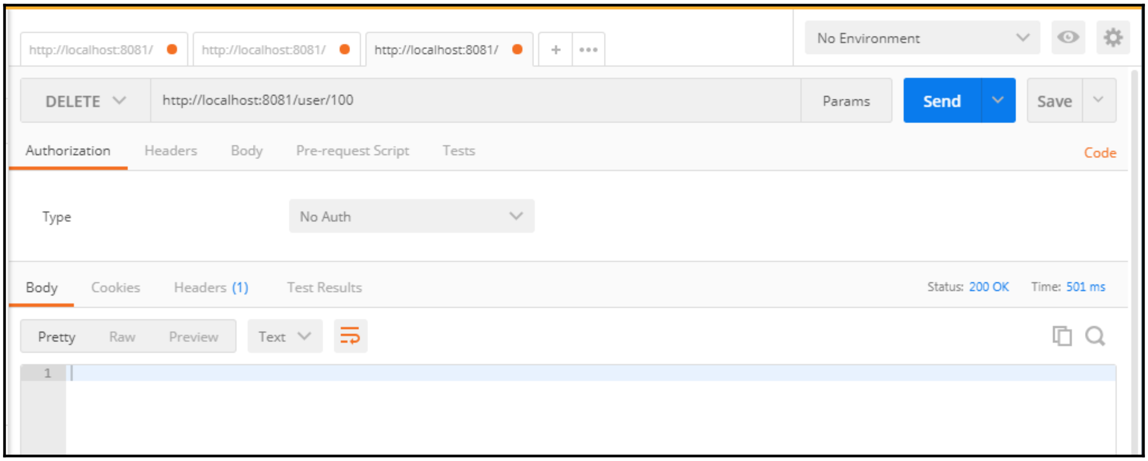
PUT http://localhost:8081/user

○ form-data ○ x-www-form-urlencoded ● raw ○ binary JSON (application/json)

```
{
    "userid" : 100,
    "username" : "Peter"
}
```

Status: 200 OK Time: 329 ms

>

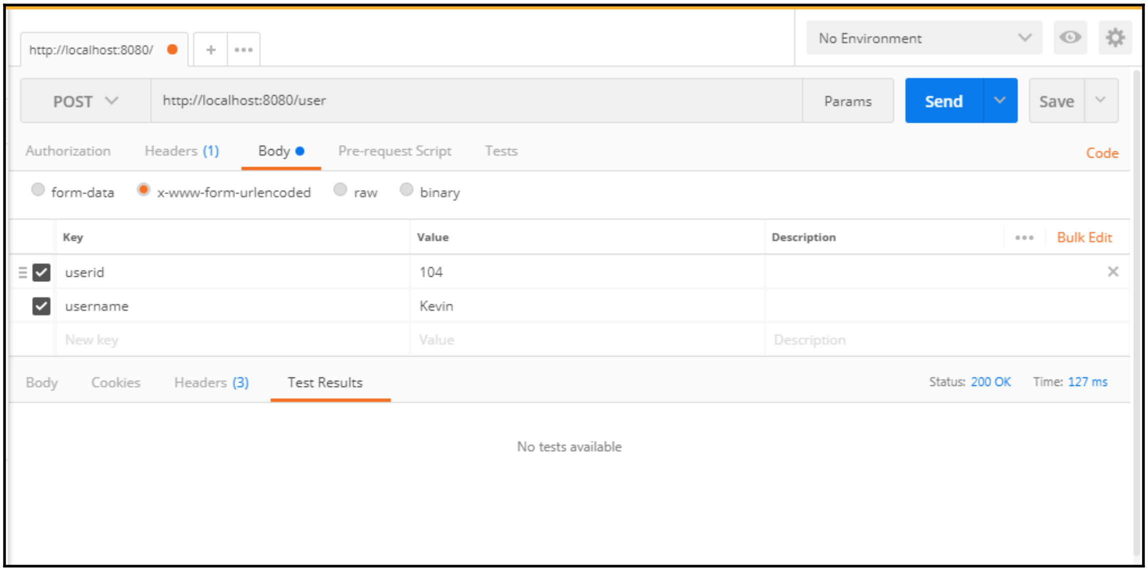


DELETE http://localhost:8081/user/100

Type: No Auth

Status: 200 OK Time: 501 ms

Chapter 5: CRUD Operations in Plain REST (Without Reactive) and File Upload



POST http://localhost:8080/user

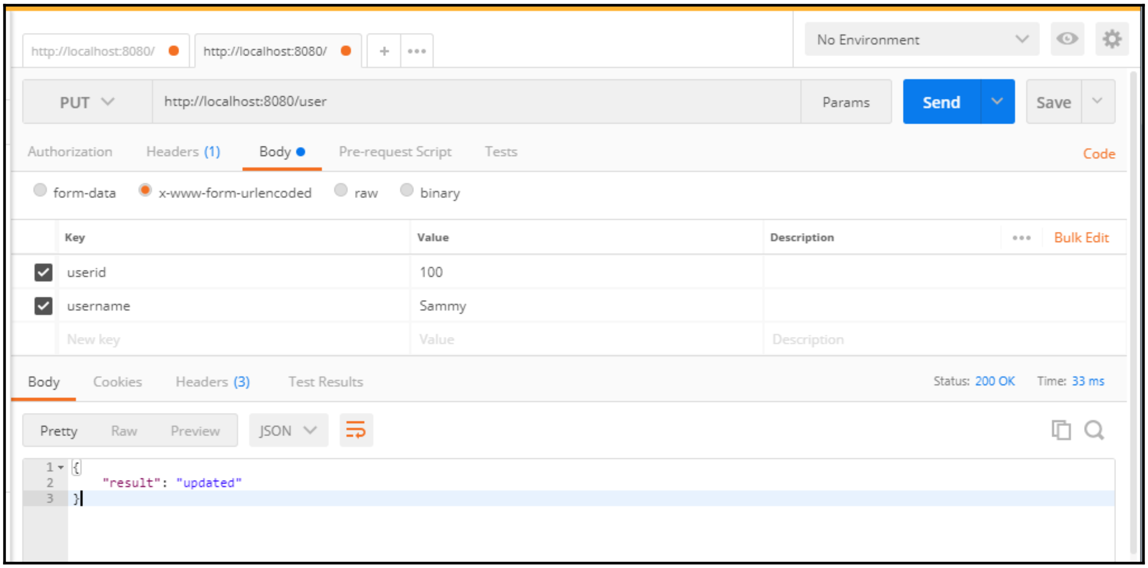
○ form-data ● x-www-form-urlencoded ○ raw ○ binary

	Key	Value	Description
☑	userid	104	
☑	username	Kevin	
	New key	Value	Description

Status: 200 OK Time: 127 ms

No tests available

>



PUT http://localhost:8080/user

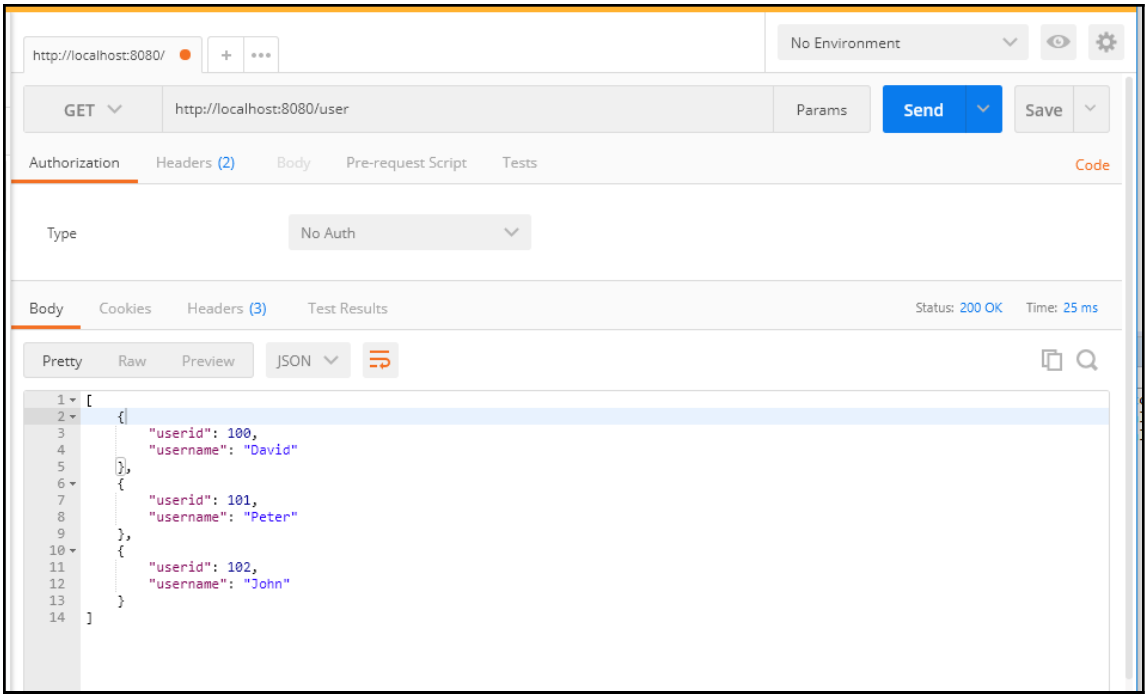
○ form-data ● x-www-form-urlencoded ○ raw ○ binary

	Key	Value	Description
☑	userid	100	
☑	username	Sammy	
	New key	Value	Description

Status: 200 OK Time: 33 ms

```
{
    "result": "updated"
}
```

Chapter 7: Testing RESTful Web Services

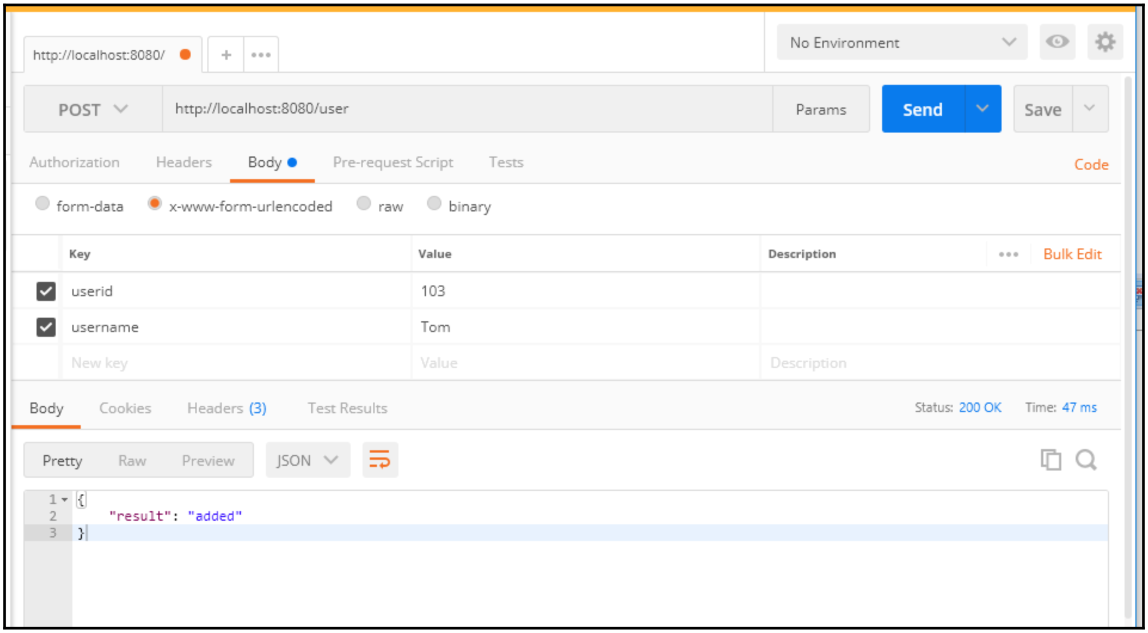


http://localhost:8080/user

Type: No Auth

Status: 200 OK Time: 25 ms

```
[
    {
        "userid": 100,
        "username": "David"
    },
    {
        "userid": 101,
        "username": "Peter"
    },
    {
        "userid": 102,
        "username": "John"
    }
]
```



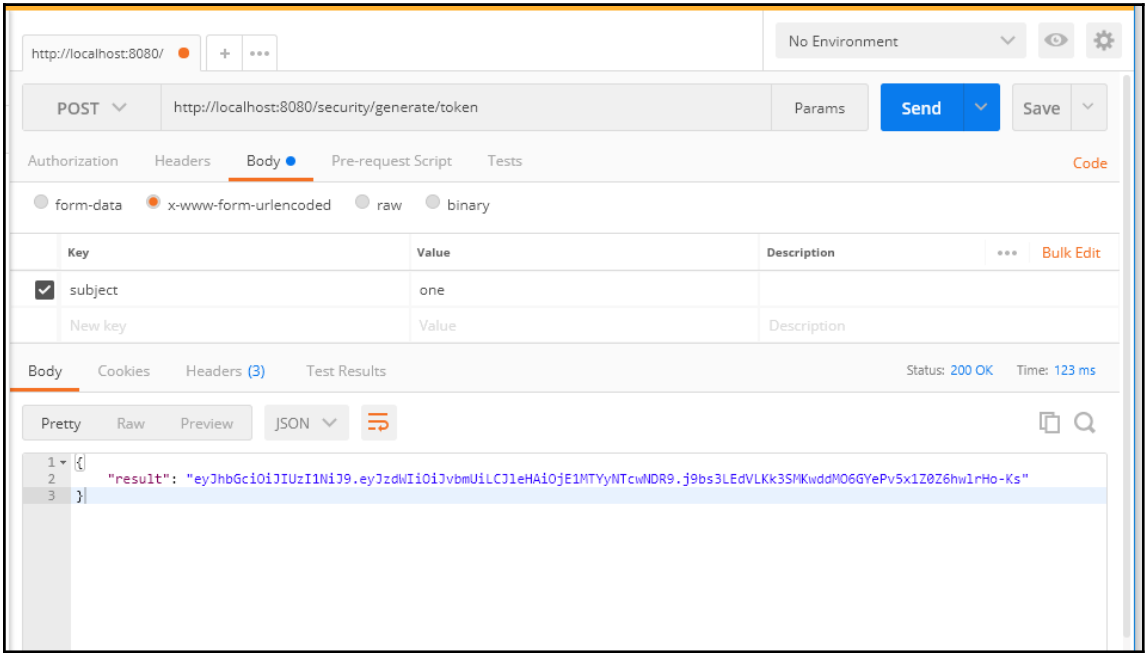
POST http://localhost:8080/user

○ form-data ● x-www-form-urlencoded ○ raw ○ binary

	Key	Value	Description
☑	userid	103	
☑	username	Tom	
	New key	Value	Description

Status: 200 OK Time: 47 ms

```
{
    "result": "added"
}
```



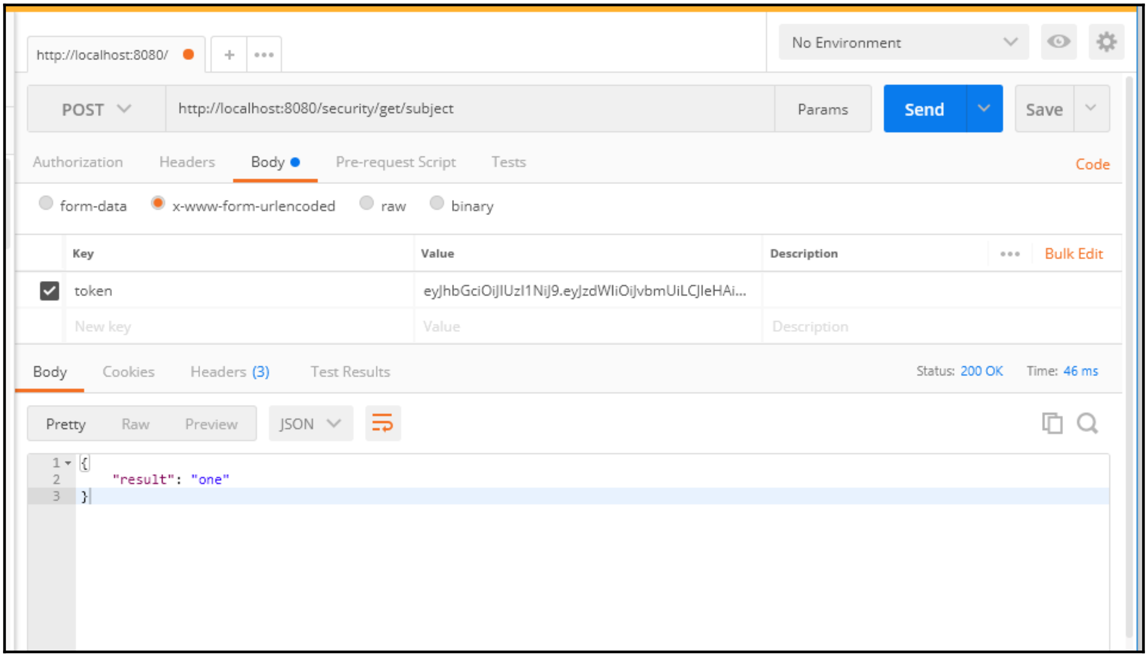
POST http://localhost:8080/security/generate/token

○ form-data ● x-www-form-urlencoded ○ raw ○ binary

	Key	Value	Description
☑	subject	one	
	New key	Value	Description

Status: 200 OK Time: 123 ms

```
{
    "result": "eyJhbGciOiJIUzI1NiJ9.eyJzdWIiOiJvbmUiLCJleHAiOjE1MTYyNTcwNDR9.j9bs3LEdVLKk3SMKwddMO6GYePv5x1Z0Z6hwlrHo-Ks"
}
```



POST http://localhost:8080/security/get/subject

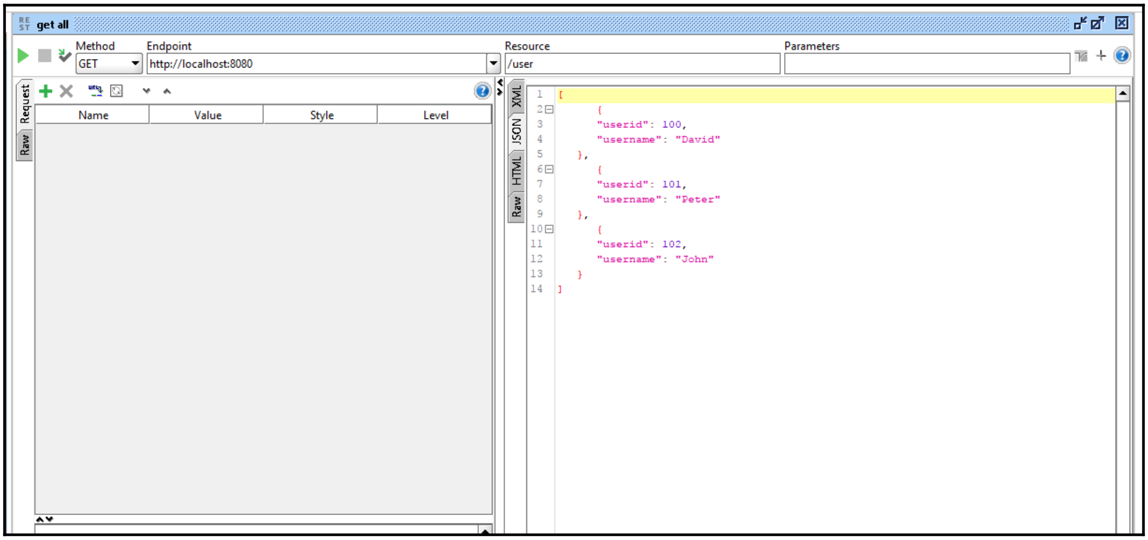
○ form-data ● x-www-form-urlencoded ○ raw ○ binary

	Key	Value	Description
☑	token	eyJhbGciOiJIUzI1NiJ9.eyJzdWIiOiJvbmUiLCJleHAi...	
	New key	Value	Description

Status: 200 OK Time: 46 ms

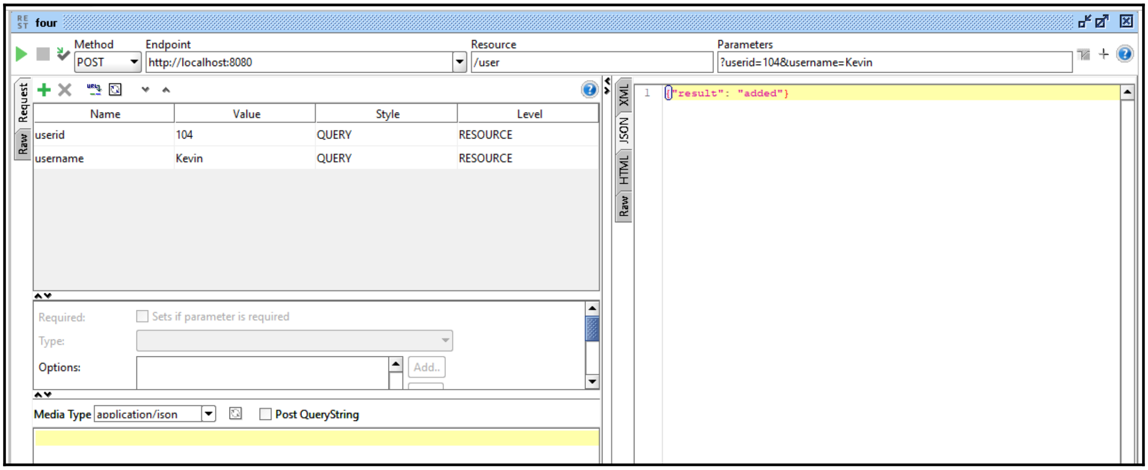
JSON

```
{
    "result": "one"
}
```



Method: GET
Endpoint: http://localhost:8080
Resource: /user
Parameters:

```
[
        {
        "userid": 100,
        "username": "David"
    },
        {
        "userid": 101,
        "username": "Peter"
    },
        {
        "userid": 102,
        "username": "John"
    }
]
```



Method: POST

Endpoint: http://localhost:8080

Resource: /user

Parameters: ?userid=104&username=Kevin

Name	Value	Style	Level
userid	104	QUERY	RESOURCE
username	Kevin	QUERY	RESOURCE

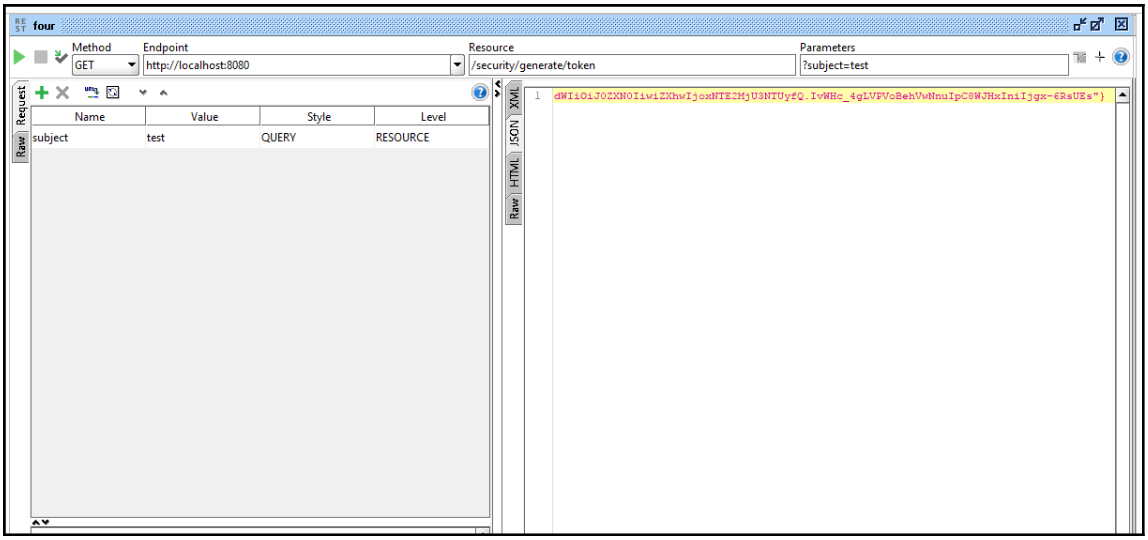
Required: □ Sets if parameter is required

Type:

Options:

Media Type: application/json □ Post QueryString

```
{"result": "added"}
```



Method: GET

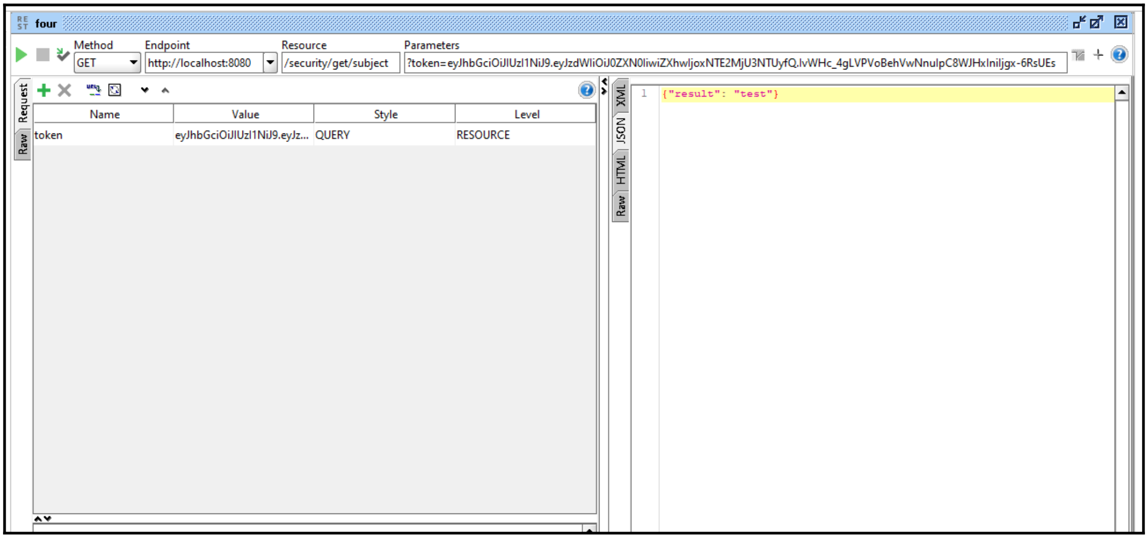
Endpoint: http://localhost:8080

Resource: /security/generate/token

Parameters: ?subject=test

Name	Value	Style	Level
subject	test	QUERY	RESOURCE

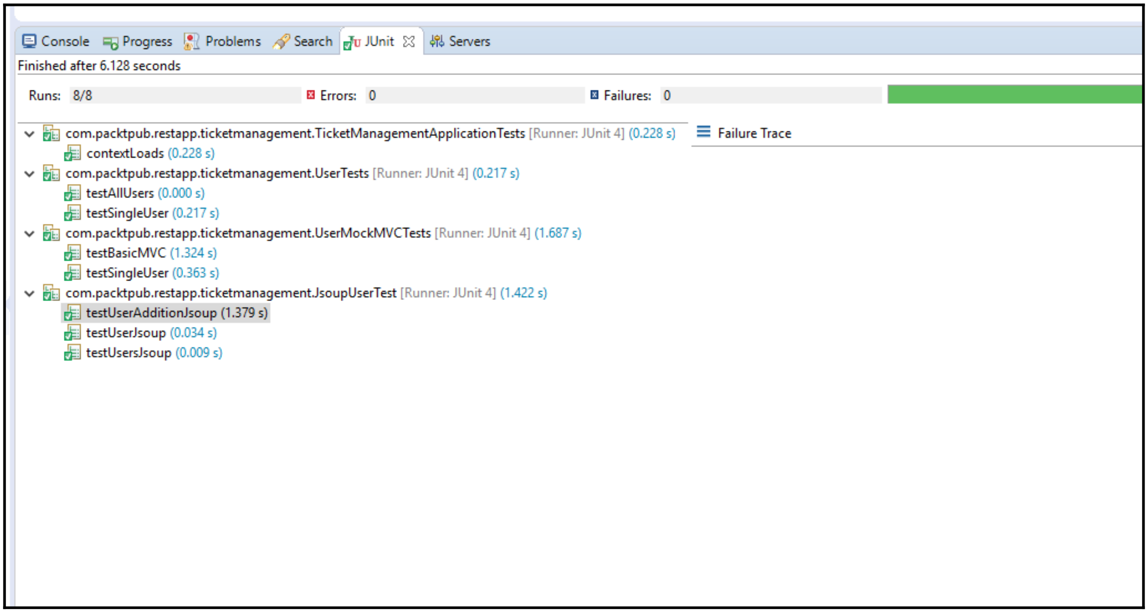
```
dWIiOiJ0ZXN0IiwiZXhwIjoxNTE2MjU3NTUyfQ.IvWHc_4gLVPVoBehVwNnuIpC8WJHxIniIjgx-6RsUEs"}
```



Method: GET
Endpoint: http://localhost:8080
Resource: /security/get/subject
Parameters: ?token=eyJhbGciOiJIUzI1NiJ9.eyJzdWIiOiJ0ZXN0IiwiZXhwIjoxNTE2MjU3NTUyfQ.lvWHc_4gLVPVoBehVwNnulpC8WJHxIniljgx-6RsUEs

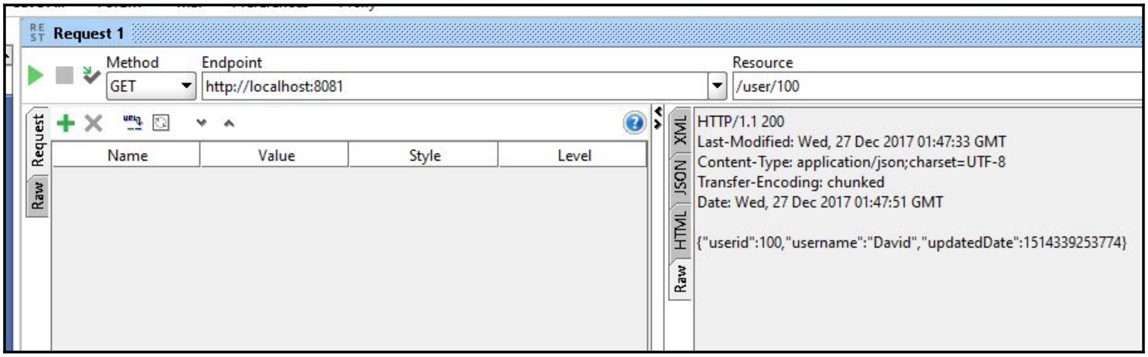
Name	Value	Style	Level
token	eyJhbGciOiJIUzI1NiJ9.eyJz...	QUERY	RESOURCE

```
1  {"result": "test"}
```



```
Finished after 6.128 seconds

Runs: 8/8        Errors: 0        Failures: 0

com.packtpub.restapp.ticketmanagement.TicketManagementApplicationTests [Runner: JUnit 4] (0.228 s)
    contextLoads (0.228 s)
com.packtpub.restapp.ticketmanagement.UserTests [Runner: JUnit 4] (0.217 s)
    testAllUsers (0.000 s)
    testSingleUser (0.217 s)
com.packtpub.restapp.ticketmanagement.UserMockMVCTests [Runner: JUnit 4] (1.687 s)
    testBasicMVC (1.324 s)
    testSingleUser (0.363 s)
com.packtpub.restapp.ticketmanagement.JsoupUserTest [Runner: JUnit 4] (1.422 s)
    testUserAdditionJsoup (1.379 s)
    testUserJsoup (0.034 s)
    testUsersJsoup (0.009 s)
```

Chapter 8: Performance

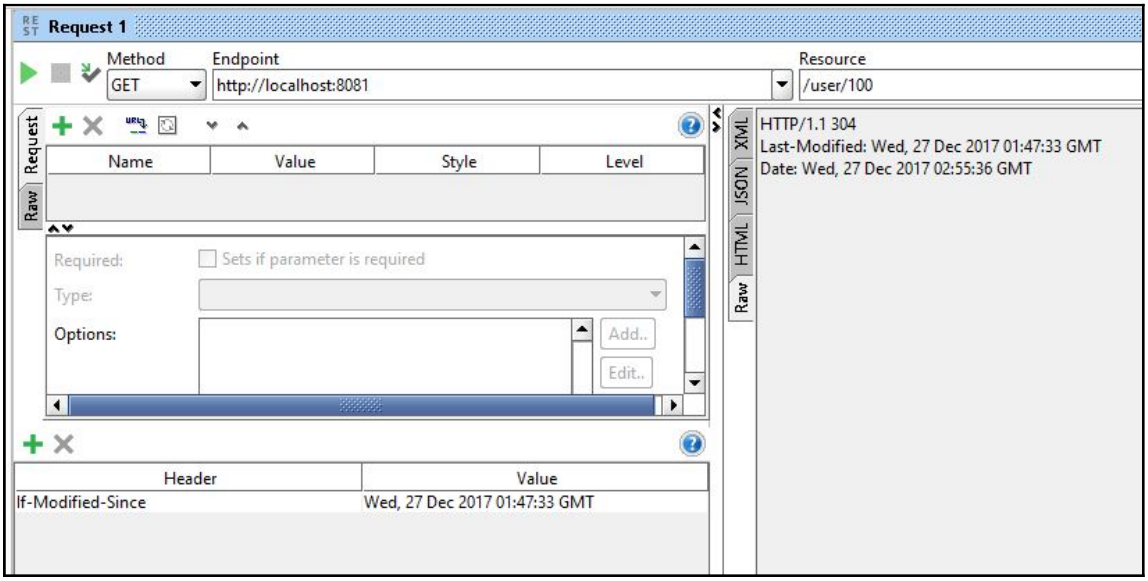


Method: GET

Endpoint: http://localhost:8081

Resource: /user/100

```
HTTP/1.1 200
Last-Modified: Wed, 27 Dec 2017 01:47:33 GMT
Content-Type: application/json;charset=UTF-8
Transfer-Encoding: chunked
Date: Wed, 27 Dec 2017 01:47:51 GMT

{"userid":100,"username":"David","updatedDate":1514339253774}
```



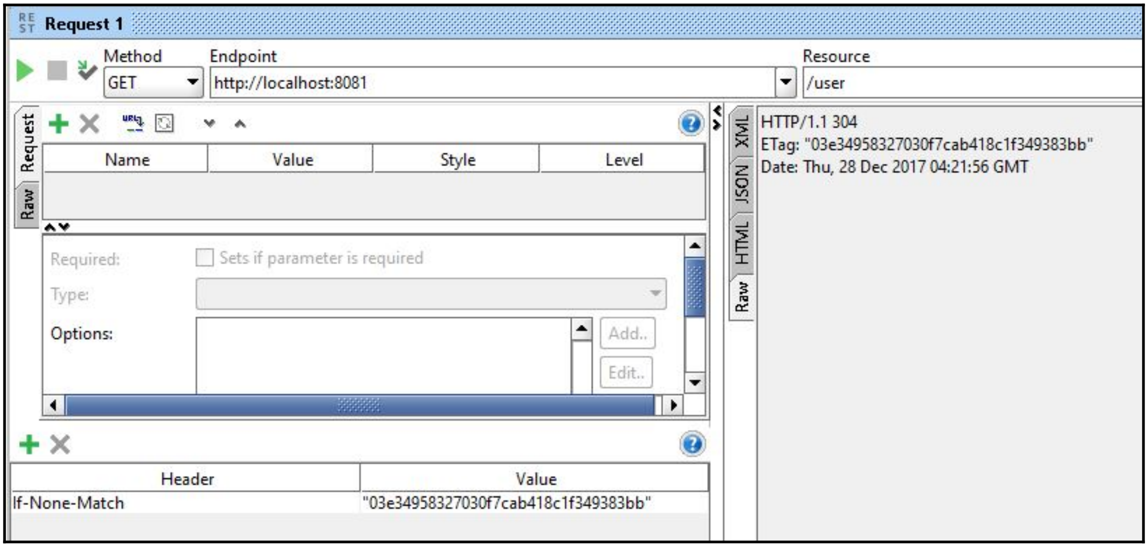
Method: GET

Endpoint: http://localhost:8081

Resource: /user/100

Header	Value
If-Modified-Since	Wed, 27 Dec 2017 01:47:33 GMT

```
HTTP/1.1 304
Last-Modified: Wed, 27 Dec 2017 01:47:33 GMT
Date: Wed, 27 Dec 2017 02:55:36 GMT
```



Method: GET

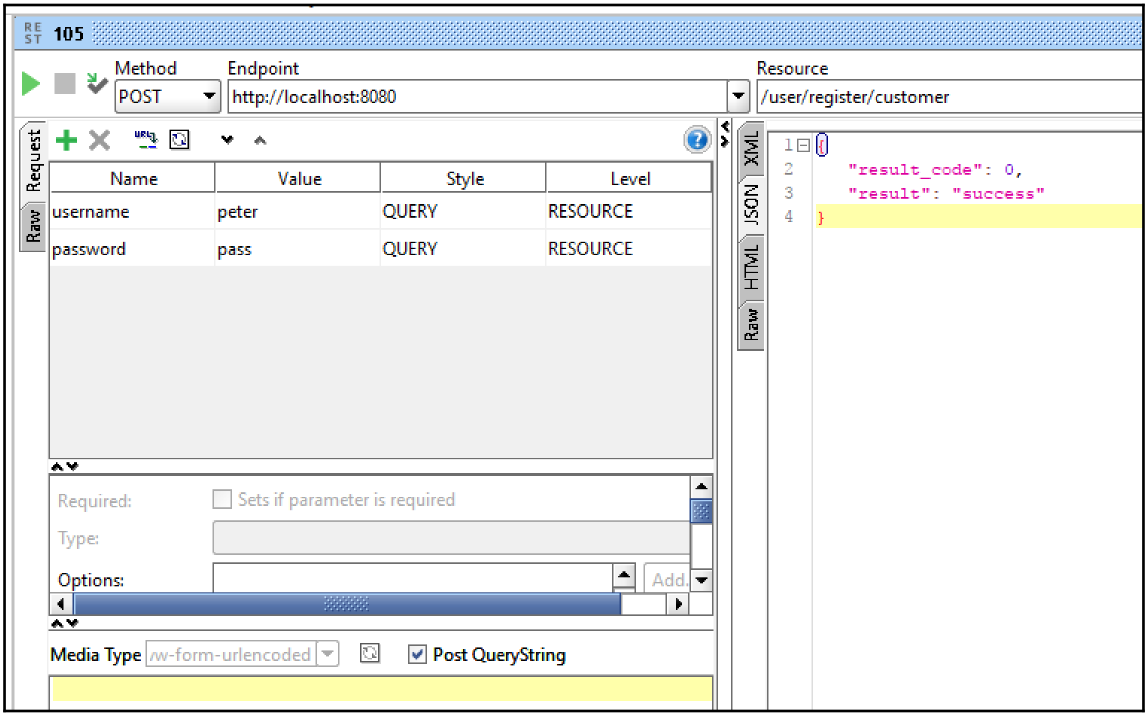
Endpoint: http://localhost:8081

Resource: /user

Header	Value
If-None-Match	"03e34958327030f7cab418c1f349383bb"

```
HTTP/1.1 304
ETag: "03e34958327030f7cab418c1f349383bb"
Date: Thu, 28 Dec 2017 04:21:56 GMT
```

Chapter 13: Ticket Management – Advanced CRUD



Method: POST

Endpoint: http://localhost:8080

Resource: /user/register/customer

Name	Value	Style	Level
username	peter	QUERY	RESOURCE
password	pass	QUERY	RESOURCE

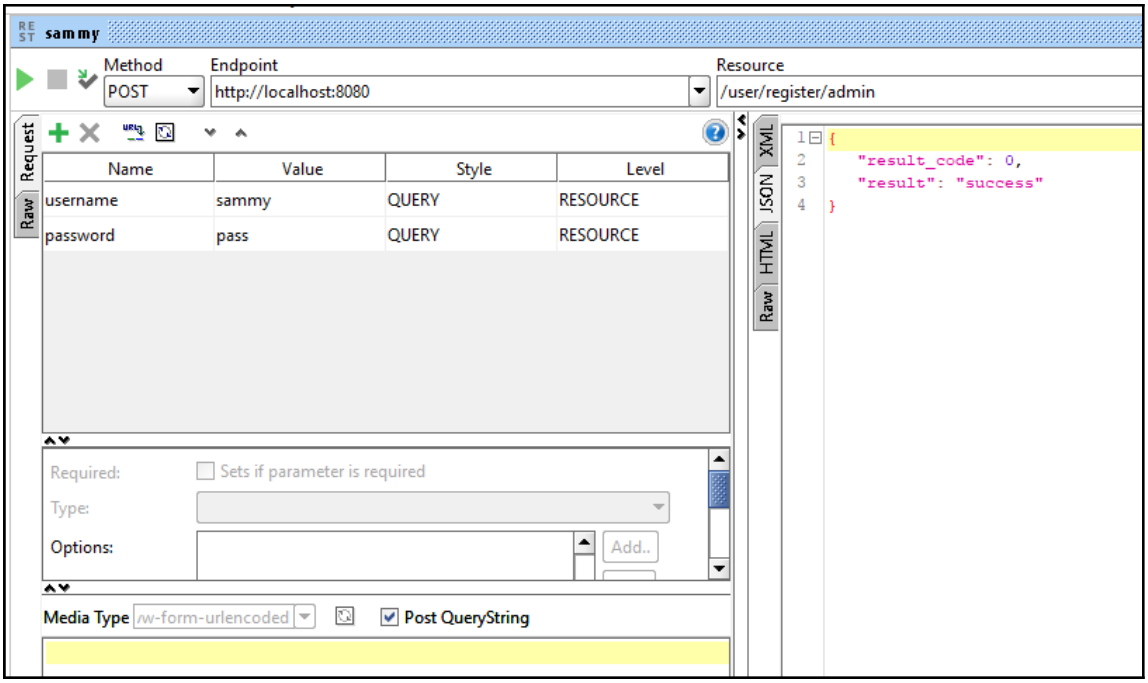
Required: □ Sets if parameter is required

Type:

Options:

Media Type: /w-form-urlencoded ☑ Post QueryString

```
{
    "result_code": 0,
    "result": "success"
}
```



Method: POST

Endpoint: http://localhost:8080

Resource: /user/register/admin

Name	Value	Style	Level
username	sammy	QUERY	RESOURCE
password	pass	QUERY	RESOURCE

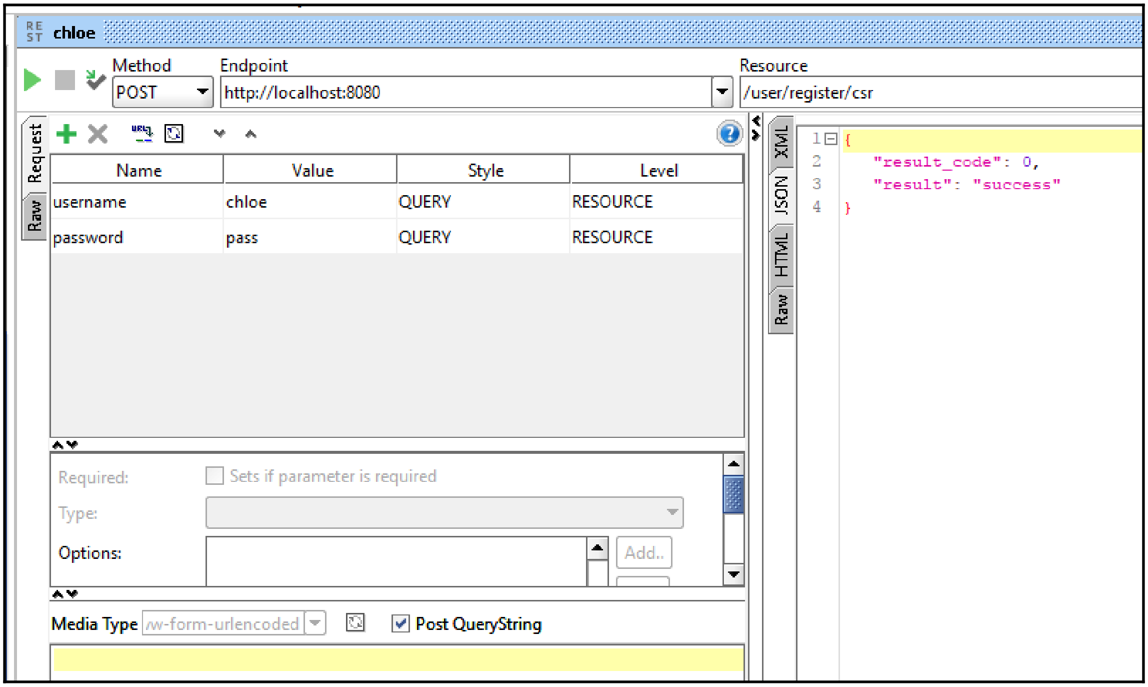
Required: □ Sets if parameter is required

Type:

Options:

Media Type /w-form-urlencoded ☑ Post QueryString

```
{
    "result_code": 0,
    "result": "success"
}
```



chloe

Method: POST

Endpoint: http://localhost:8080

Resource: /user/register/csr

Name	Value	Style	Level
username	chloe	QUERY	RESOURCE
password	pass	QUERY	RESOURCE

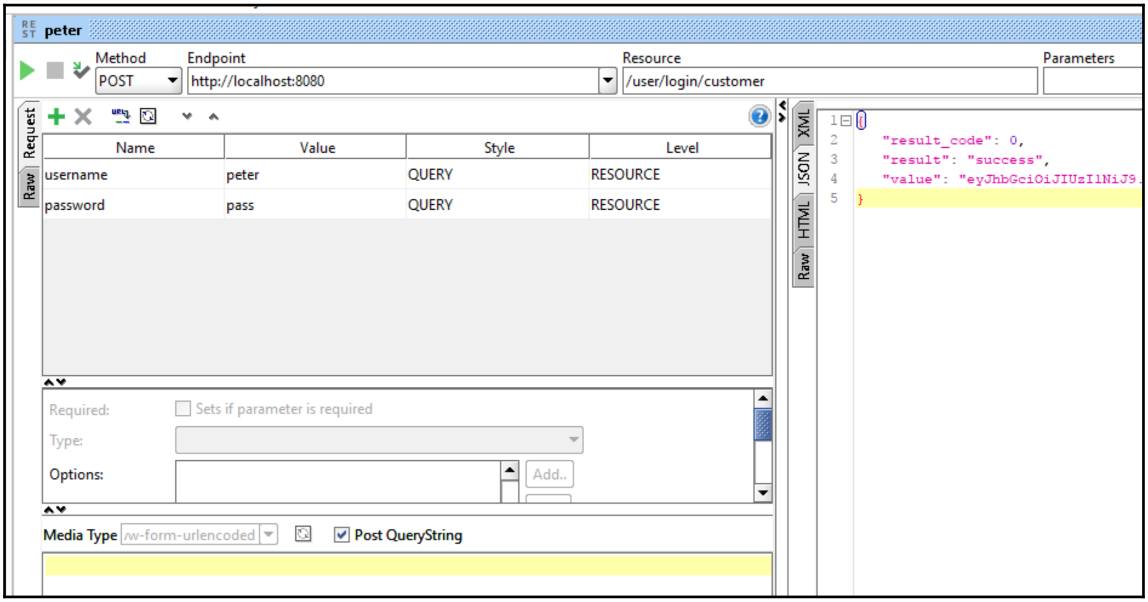
Required: □ Sets if parameter is required

Type:

Options:

Media Type /w-form-urlencoded ☑ Post QueryString

```
{
    "result_code": 0,
    "result": "success"
}
```



peter

Method: POST

Endpoint: http://localhost:8080

Resource: /user/login/customer

Parameters:

Name	Value	Style	Level
username	peter	QUERY	RESOURCE
password	pass	QUERY	RESOURCE

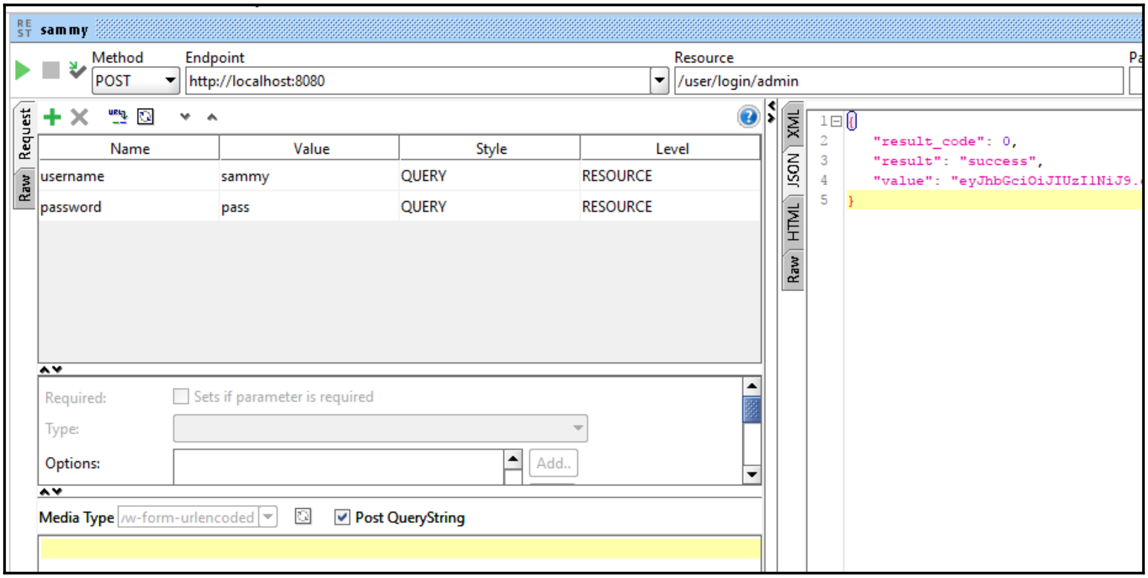
Required: □ Sets if parameter is required

Type:

Options:

Media Type /w-form-urlencoded ☑ Post QueryString

```
{
    "result_code": 0,
    "result": "success",
    "value": "eyJhbGciOiJIUzI1NiJ9.
}
```



Method: POST

Endpoint: http://localhost:8080

Resource: /user/login/admin

Name	Value	Style	Level
username	sammy	QUERY	RESOURCE
password	pass	QUERY	RESOURCE

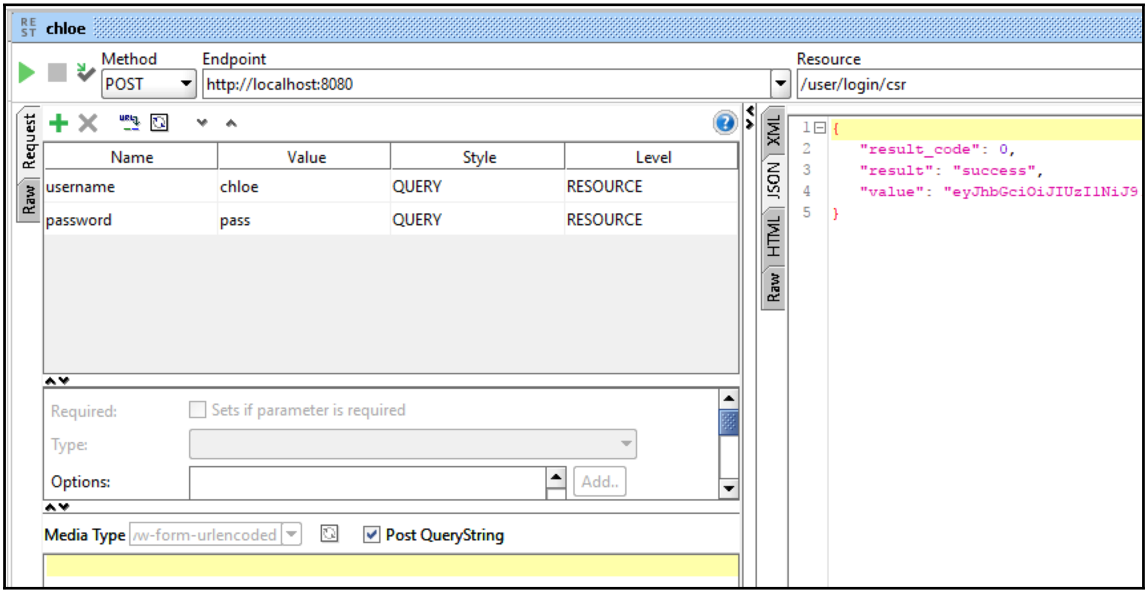
Required: □ Sets if parameter is required

Type:

Options:

Media Type /w-form-urlencoded ☑ Post QueryString

```
{
    "result_code": 0,
    "result": "success",
    "value": "eyJhbGciOiJIUzI1NiJ9.
}
```



Method: POST

Endpoint: http://localhost:8080

Resource: /user/login/csr

Name	Value	Style	Level
username	chloe	QUERY	RESOURCE
password	pass	QUERY	RESOURCE

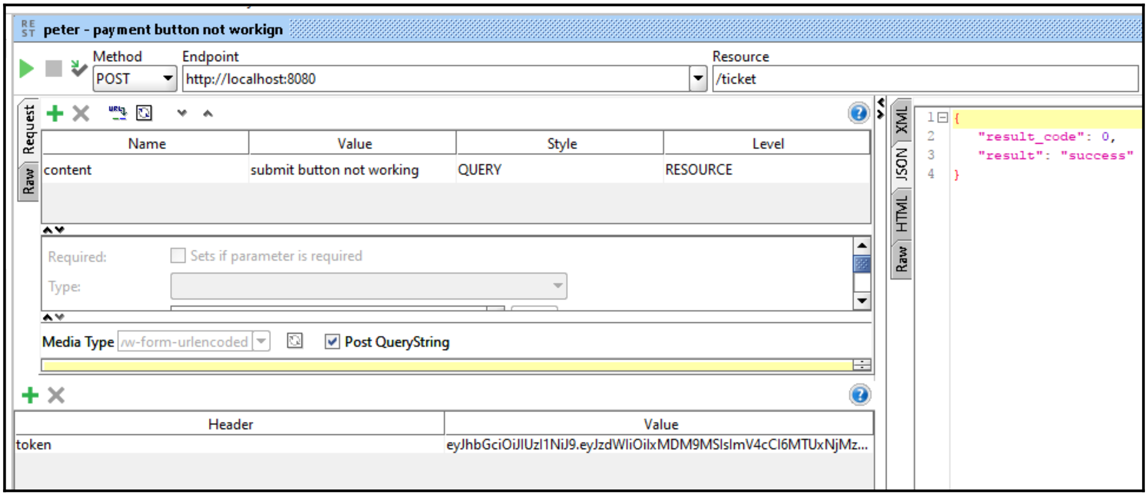
Required: □ Sets if parameter is required

Type:

Options:

Media Type /w-form-urlencoded ☑ Post QueryString

```
{
    "result_code": 0,
    "result": "success",
    "value": "eyJhbGciOiJIUzI1NiJ9
}
```



peter - payment button not workign

Method: POST
Endpoint: http://localhost:8080
Resource: /ticket

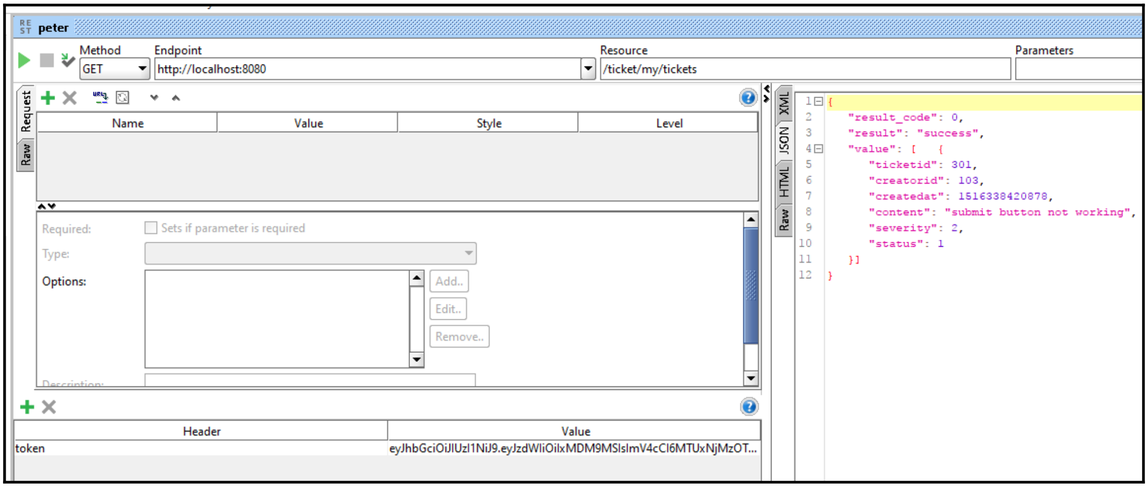
Name	Value	Style	Level
content	submit button not working	QUERY	RESOURCE

Required: □ Sets if parameter is required
Type:

Media Type: /w-form-urlencoded ☑ Post QueryString

Header	Value
token	eyJhbGciOiJIUzI1NiJ9.eyJzdWIiOiIxMDM9MSIsImV4cCI6MTUxNjMz...

```
{
   "result_code": 0,
   "result": "success"
}
```



peter

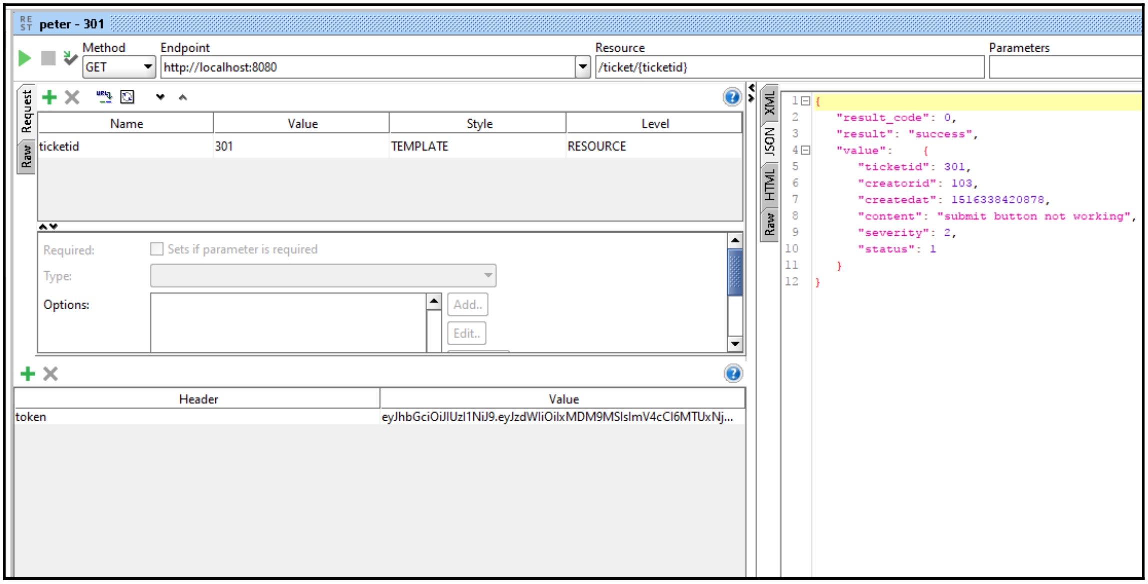
Method: GET
Endpoint: http://localhost:8080
Resource: /ticket/my/tickets
Parameters:

Name	Value	Style	Level

Required: □ Sets if parameter is required
Type:
Options:
Description:

Header	Value
token	eyJhbGciOiJIUzI1NiJ9.eyJzdWIiOiIxMDM9MSIsImV4cCI6MTUxNjMzOT...

```
{
   "result_code": 0,
   "result": "success",
   "value": [   {
      "ticketid": 301,
      "creatorid": 103,
      "createdat": 1516338420878,
      "content": "submit button not working",
      "severity": 2,
      "status": 1
   }]
}
```



peter - 301

Method: GET

Endpoint: http://localhost:8080

Resource: /ticket/{ticketid}

Parameters:

Name	Value	Style	Level
ticketid	301	TEMPLATE	RESOURCE

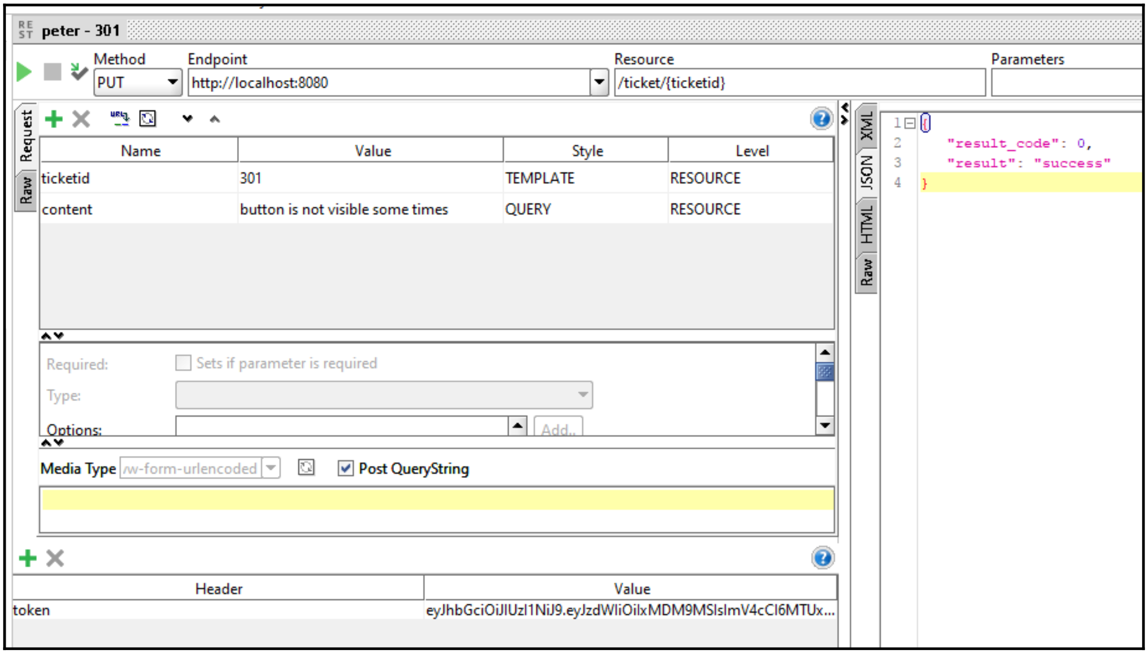
Required: □ Sets if parameter is required

Type:

Options:

Header	Value
token	eyJhbGciOiJIUzI1NiJ9.eyJzdWliOilxMDM9MSIsImV4cCI6MTUxNj...

```
{
   "result_code": 0,
   "result": "success",
   "value":     {
      "ticketid": 301,
      "creatorid": 103,
      "createdat": 1516338420878,
      "content": "submit button not working",
      "severity": 2,
      "status": 1
   }
}
```



peter - 301

Method: PUT

Endpoint: http://localhost:8080

Resource: /ticket/{ticketid}

Parameters:

Name	Value	Style	Level
ticketid	301	TEMPLATE	RESOURCE
content	button is not visible some times	QUERY	RESOURCE

Required: □ Sets if parameter is required

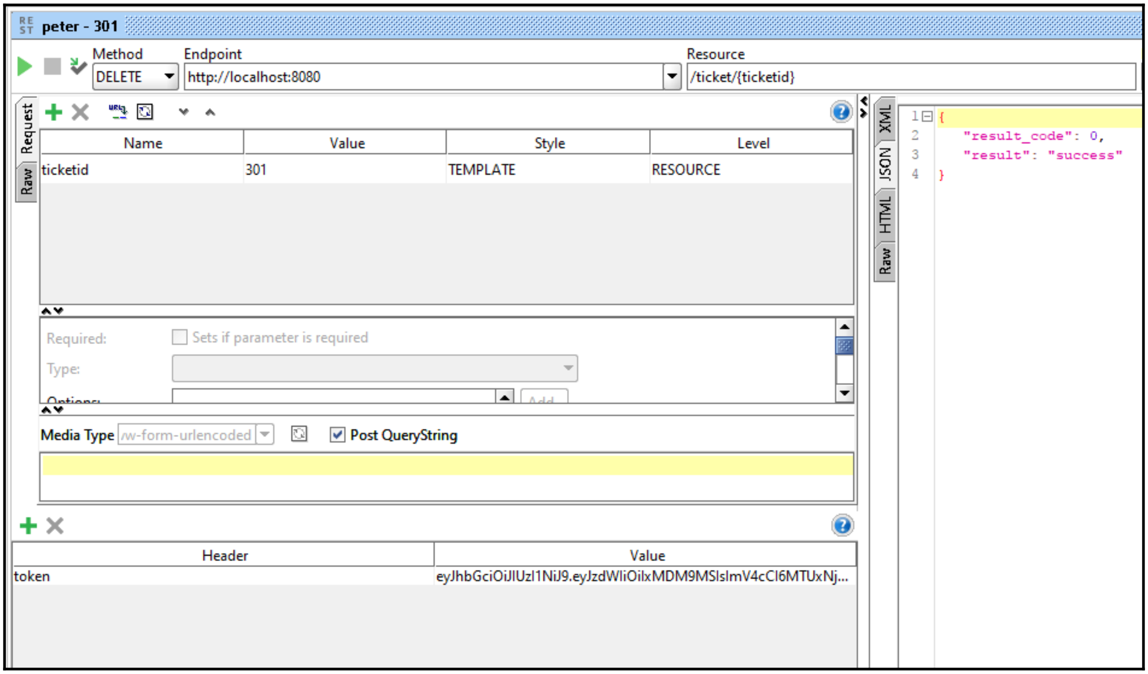
Type:

Options:

Media Type /w-form-urlencoded ☑ Post QueryString

Header	Value
token	eyJhbGciOiJIUzI1NiJ9.eyJzdWliOilxMDM9MSIsImV4cCI6MTUx...

```
{
   "result_code": 0,
   "result": "success"
}
```



Method: DELETE

Endpoint: http://localhost:8080

Resource: /ticket/{ticketid}

Name	Value	Style	Level
ticketid	301	TEMPLATE	RESOURCE

Required: □ Sets if parameter is required

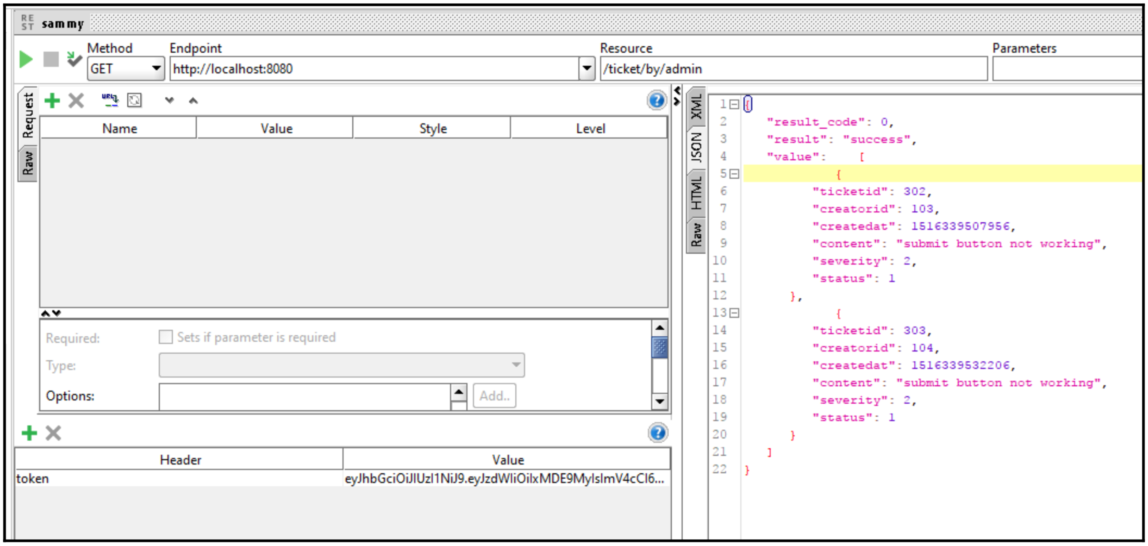
Type:

Options:

Media Type /w-form-urlencoded ☑ Post QueryString

Header	Value
token	eyJhbGciOiJIUzI1NiJ9.eyJzdWliOilxMDM9MSlslmV4cCl6MTUxNj...

```
{
    "result_code": 0,
    "result": "success"
}
```



Method: GET

Endpoint: http://localhost:8080

Resource: /ticket/by/admin

Parameters:

Name	Value	Style	Level

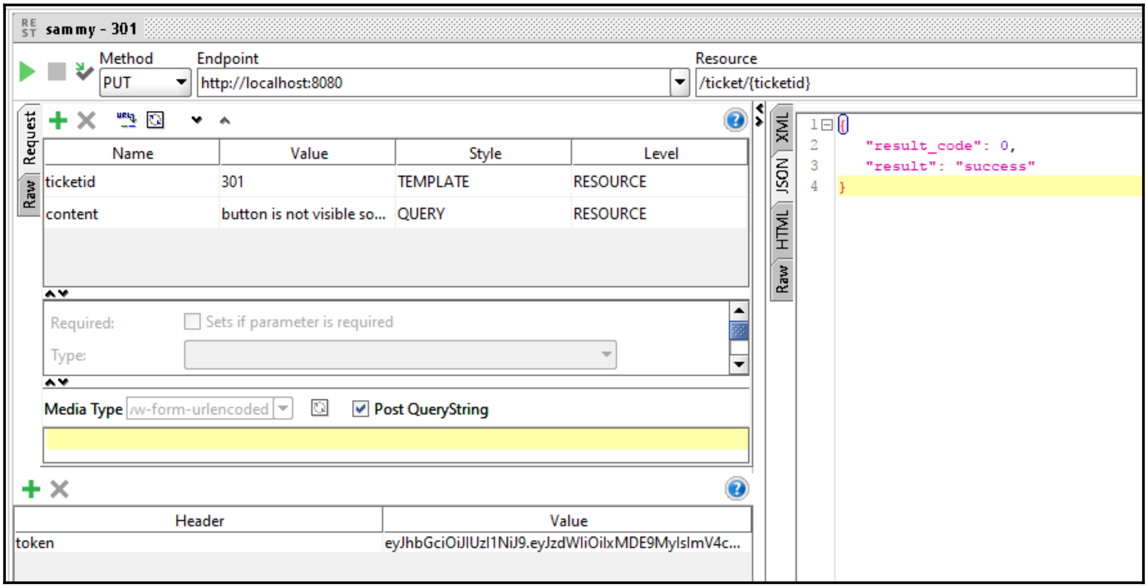
Required: □ Sets if parameter is required

Type:

Options:

Header	Value
token	eyJhbGciOiJIUzI1NiJ9.eyJzdWliOilxMDE9MylslmV4cCl6...

```
{
    "result_code": 0,
    "result": "success",
    "value":     [
                {
            "ticketid": 302,
            "creatorid": 103,
            "createdat": 1516339507956,
            "content": "submit button not working",
            "severity": 2,
            "status": 1
        },
                {
            "ticketid": 303,
            "creatorid": 104,
            "createdat": 1516339532206,
            "content": "submit button not working",
            "severity": 2,
            "status": 1
        }
    ]
}
```



Method: PUT

Endpoint: http://localhost:8080

Resource: /ticket/{ticketid}

Name	Value	Style	Level
ticketid	301	TEMPLATE	RESOURCE
content	button is not visible so...	QUERY	RESOURCE

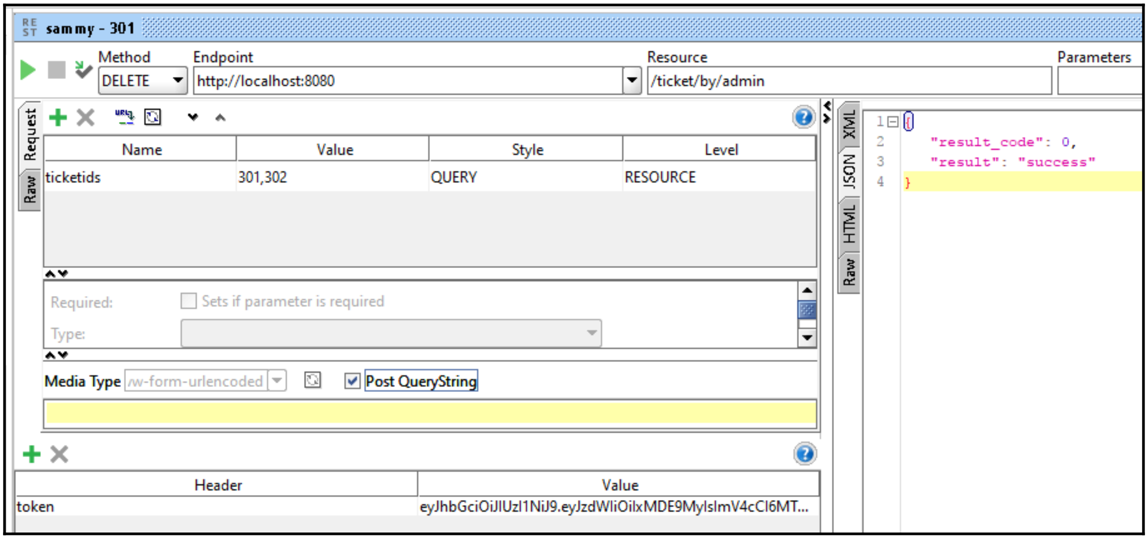
Required: □ Sets if parameter is required

Type:

Media Type /w-form-urlencoded ☑ Post QueryString

Header	Value
token	eyJhbGciOiJIUzI1NiJ9.eyJzdWliOilxMDE9MylsImV4c...

```
{
    "result_code": 0,
    "result": "success"
}
```



Method: DELETE

Endpoint: http://localhost:8080

Resource: /ticket/by/admin

Parameters

Name	Value	Style	Level
ticketids	301,302	QUERY	RESOURCE

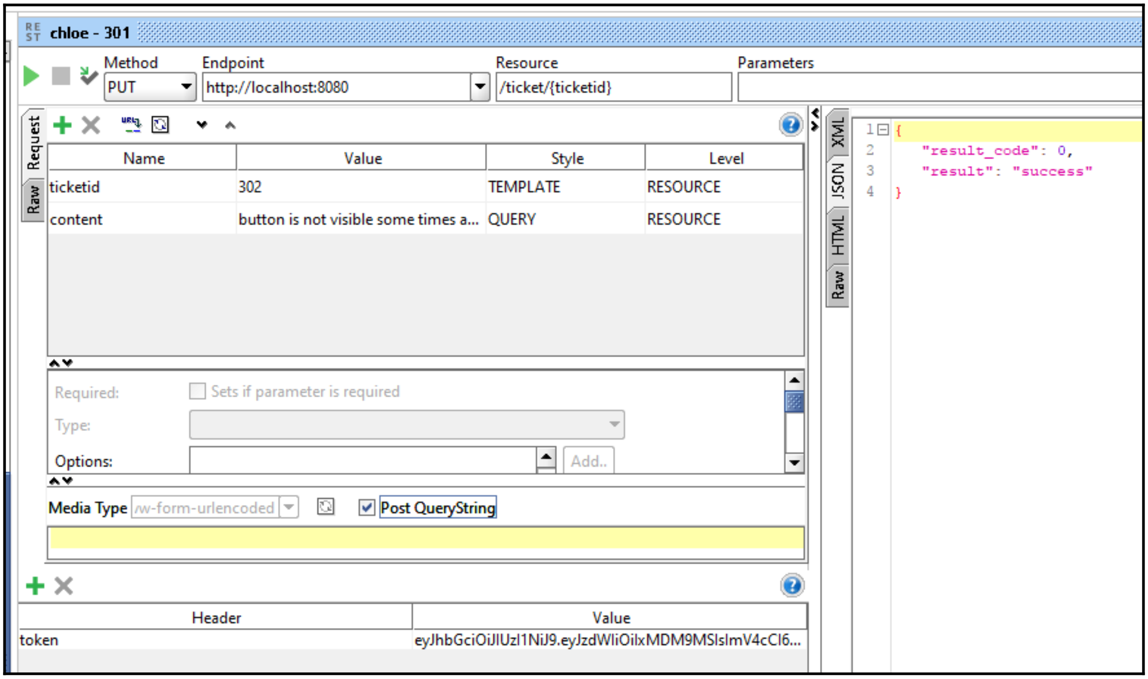
Required: □ Sets if parameter is required

Type:

Media Type /w-form-urlencoded ☑ Post QueryString

Header	Value
token	eyJhbGciOiJIUzI1NiJ9.eyJzdWliOilxMDE9MylsImV4cCI6MT...

```
{
    "result_code": 0,
    "result": "success"
}
```



chloe - 301

Method: PUT
Endpoint: http://localhost:8080
Resource: /ticket/{ticketid}
Parameters:

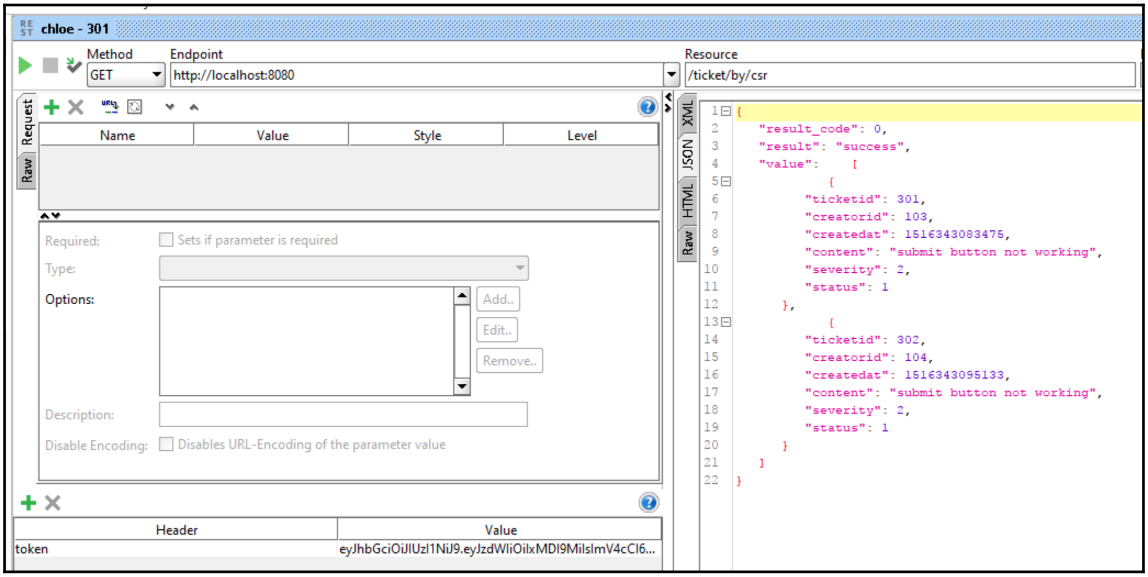
Name	Value	Style	Level
ticketid	302	TEMPLATE	RESOURCE
content	button is not visible some times a...	QUERY	RESOURCE

Required: □ Sets if parameter is required
Type:
Options: Add..

Media Type /w-form-urlencoded ☑ Post QueryString

Header	Value
token	eyJhbGciOiJIUzI1NiJ9.eyJzdWliOilxMDM9MSlslmV4cCI6...

```
{
  "result_code": 0,
  "result": "success"
}
```



chloe - 301

Method: GET
Endpoint: http://localhost:8080
Resource: /ticket/by/csr

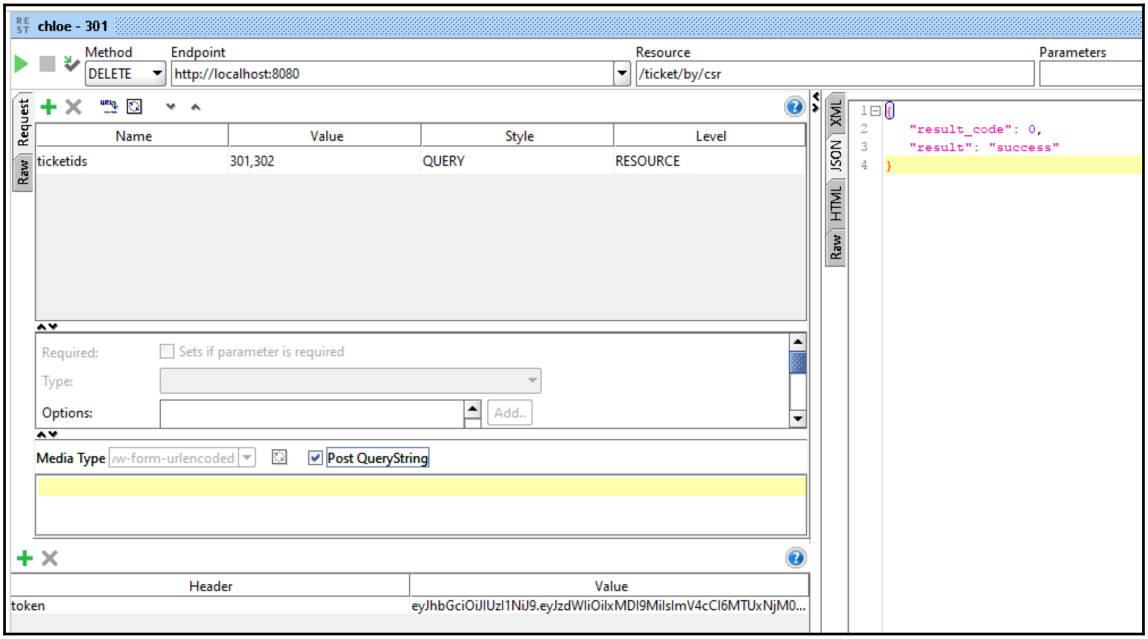
Name	Value	Style	Level

Required: □ Sets if parameter is required
Type:
Options: Add.. Edit.. Remove..
Description:
Disable Encoding: □ Disables URL-Encoding of the parameter value

Header	Value
token	eyJhbGciOiJIUzI1NiJ9.eyJzdWliOilxMDI9MilslmV4cCI6...

```
{
   "result_code": 0,
   "result": "success",
   "value":    [
            {
         "ticketid": 301,
         "creatorid": 103,
         "createdat": 1516343083475,
         "content": "submit button not working",
         "severity": 2,
         "status": 1
      },
            {
         "ticketid": 302,
         "creatorid": 104,
         "createdat": 1516343095133,
         "content": "submit button not working",
         "severity": 2,
         "status": 1
      }
   ]
}
```

&gt;



Method: DELETE

Endpoint: http://localhost:8080

Resource: /ticket/by/csr

Parameters:

Name	Value	Style	Level
ticketids	301,302	QUERY	RESOURCE

Required: □ Sets if parameter is required

Type:

Options:

Media Type: /w-form-urlencoded

☑ Post QueryString

Header	Value
token	eyJhbGciOiJIUzI1NiJ9.eyJzdWIiOiIxMDI9MiIsImV4cCI6MTUxNjM0...

```
{
    "result_code": 0,
    "result": "success"
}
```