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### 1. INTRODUCTION

The product category chosen to the project is Online Courses (LearnOn). The product has the following attributes: id, title, duration in hours, price, instructor, subject, description, type, level and image. This information will be stored in the database. The same database will have a table to store the users that will manage the courses. This table has the following attributes: username, password, name and image. To the sprint#0 is being delivered an implementation of RESTful that allow the CRUD operations to users and courses. All the data is being returned in JSON format and the postman rest client is being used to test the API.

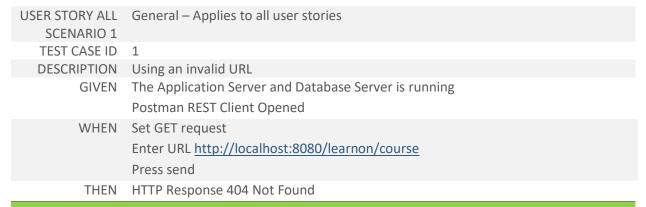
### 2. USER STORIES

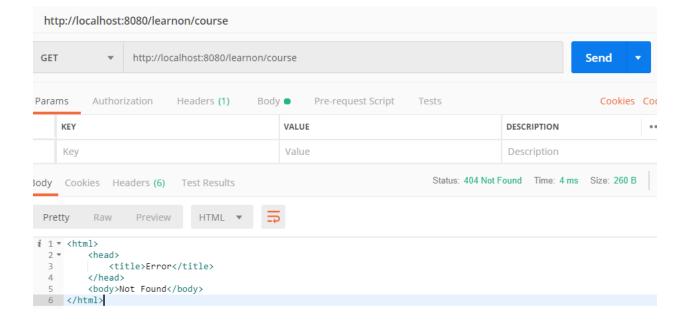
- 1. As an API Consumer, I want to add a course, so that I can add a new course through my client application.
- 2. As an API Consumer, I want to retrieve data in JSON format for all courses, so that I can use the data in my client application.
- 3. As an API Consumer, I want to retrieve data in JSON format for one course based on its ID, so that I can use the data in my client application.
- 4. As an API Consumer, I want to update a course, so that I can update an entry through my client application.
- 5. As an API Consumer, I want to delete a course, so that I can remove unwanted entries through my client application.
- 6. As an API Consumer, I want to add a user, so that I can add a new user through my client application.
- 7. As an API Consumer, I want to retrieve data in JSON format for all users, so that I can use the data in my client application.
- 8. As an API Consumer, I want to retrieve data in JSON format for one user based on its username, so that I can use the data in my client application.
- 9. As an API Consumer, I want to update a user, so that I can update an entry through my client application.
- 10. As an API Consumer, I want to delete a user, so that I can remove unwanted entries through my client application.

# 3. MANUAL TEST

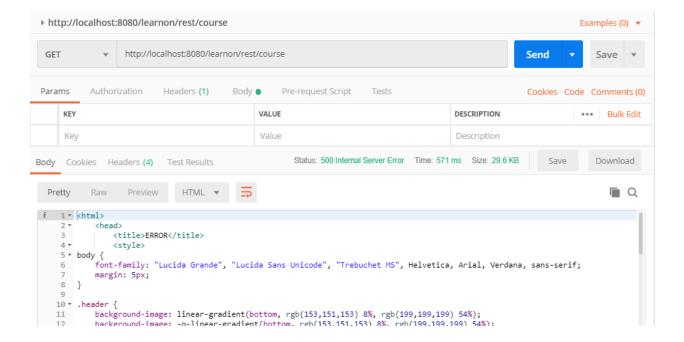
	MANUAL TEST RESULT						
TEST CASE ID	User Story ID	Scenario description	Scenario number	Test number	Date of Test	Status	Bug ID
1	All	Using an invalid URL	1	USallSC1	16 FEV	PASS	
2	All	Database server is unavailable	2	USallSC2	16 FEV	PASS	
3	All	Application server is unavailable	3	USallSC3	16 FEV	PASS	
4	US1	Add a course successfully	1	US1SC1	24 FEV	PASS	
5	US1	Method POST not exist for the path with id	2	US1SC2	24 FEV	PASS	
6	US2	Retrieve data for all courses	1	US2SC1	24 FEV	PASS	
7	US3	Retrieve data based on ID	1	US3SC1	24 FEV	PASS	
8	US3	Inexistent ID is entered when retrieving a course	2	US3SC2	24 FEV	PASS	
9	US4	Update data based on ID	1	US4SC1	24 FEV	PASS	
10	US4	Update data based on inexistent ID	2	US4SC2	24 FEV	PASS	
11	US4	Update data with path ID not matching entity ID	3	US4SC3	24 FEV	FAIL	US4 SC3 BI1
11	US4	Update data with path ID not matching entity ID	3	US4SC3	25 FEV	PASS	
12	US4	Calling method PUT without passing ID	4	US4SC4	25 FEV		
13	US5	Delete data based on ID and confirm that is not possible to access to a deleted data	1	US5SC1	25 FEV	PASS	
14	US5	Inexistent ID is entered when deleted a course	2	US5SC2	25 FEV	PASS	

15	US5	Calling method DELETE without passing ID	3	US5SC3	25 FEV	PASS	
16	US6	Add a user successfully	1	US6SC1	25 FEV	PASS	
17	US6	Not possible to add a user with duplicate username	2	US6SC2	25 FEV	PASS	
18	US6	Method POST not exist for the path with username	3	US6SC3	25 FEV	PASS	
19	US7	Retrieve data for all users	1	US7SC1	25 FEV	PASS	
20	US8	Retrieve data based on username	1	US8SC1	25 FEV	PASS	
21	US8	Inexistent username is entered when retrieving a user	2	US8SC2	25 FEV	PASS	
22	US9	Update data based on username	1	US9SC1	25 FEV	PASS	
23	US9	Update data with path username not matching entity username	2	US9SC2	25 FEV	PASS	
24	US9	Update data based on inexistent username	3	US9SC3	25 FEV	PASS	
25	US9	Calling method PUT without passing username	4	US9SC4	25 FEV	PASS	
26	US10	Delete data based on username and confirm that is not possible to access to a deleted data	1	US10SC1	25 FEV	PASS	
27	US10	Inexistent username is entered when deleted a user	2	US10SC2	25 FEV	PASS	
28	US10	Calling method DELETE without passing username	3	US10SC3	25 FEV	PASS	





USER STORY ALL SCENARIO 2	General – Applies to all user stories
TEST CASE ID	2
DESCRIPTION	Database server is unavailable
GIVEN	The Application Server is running
	The Database Server is stopped
	Postman REST Client Opened
WHEN	Set GET request
	Enter URL http://localhost:8080/learon/rest/course
	Press send
THEN	HTTP Response 500 Internal Server Error

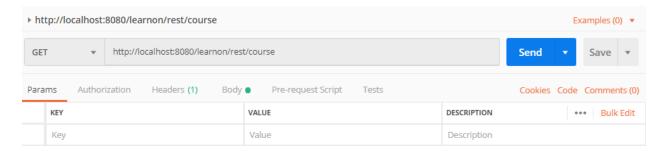


USER STORY ALL
SCENARIO 3
TEST CASE ID 3
DESCRIPTION Application server is unavailable
GIVEN The Application Server is stopped
Postman REST Client Opened

WHEN Set GET request
Enter URL <a href="http://localhost:8080/learon/rest/course">http://localhost:8080/learon/rest/course</a>
Press send

THEN HTTP Response Could not get any response

#### TEST STATUS - PASSED



### Could not get any response

There was an error connecting to http://localhost:8080/learnon/rest/course.

#### Why this might have happened:

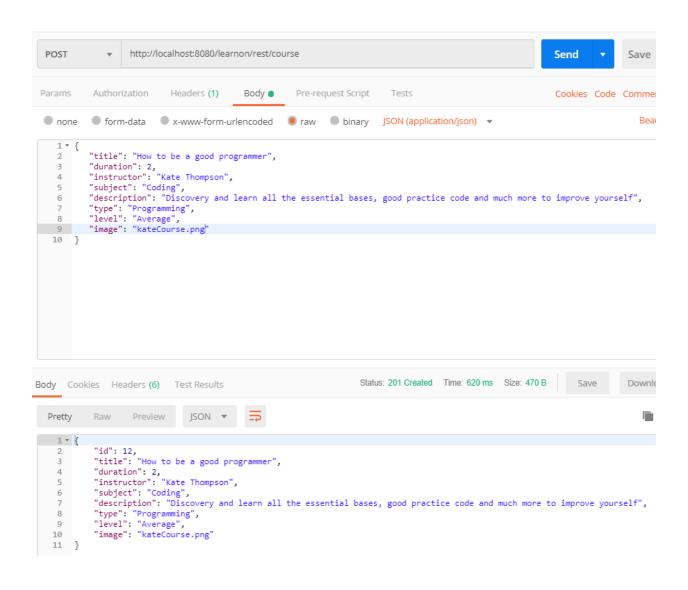
- The server couldn't send a response: Ensure that the backend is working properly
- Self-signed SSL certificates are being blocked: Fix this by turning off 'SSL certificate verification' in Settings > General
- Proxy configured incorrectly Ensure that proxy is configured correctly in Settings > Proxy
- · Request timeout: Change request timeout in Settings > General

USER STORY 1
SCENARIO 1
THOUGH my client application.

TEST CASE ID 4
DESCRIPTION Add a course successfully
GIVEN The Application Server and Database Server is running
Postman REST Client Opened

WHEN Set POST request
Enter URL http://localhost:8080/learon/rest/course
Press send

THEN HTTP Response 201 CREATED
Course is created and a JSON data format is generated.

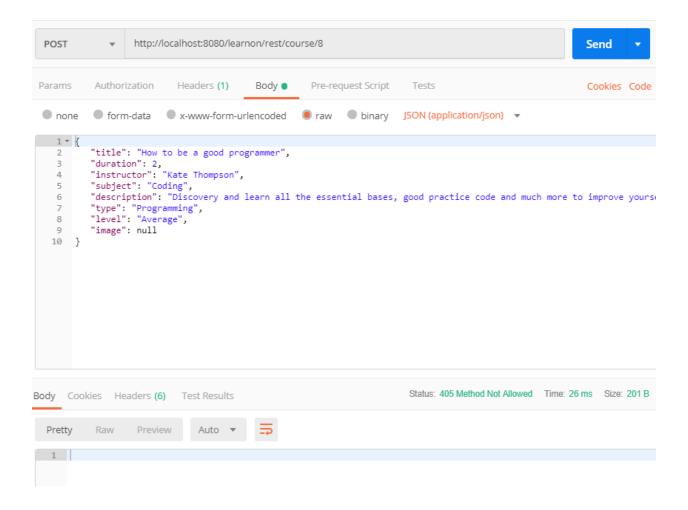


USER STORY 1
SCENARIO 2 through my client application.

TEST CASE ID 5
DESCRIPTION Method POST not exist for the path with id
GIVEN The Application Server and Database Server is running
Postman REST Client Opened

WHEN Set POST request
Enter URL <a href="http://localhost:8080/learon/rest/course/{id}">http://localhost:8080/learon/rest/course/{id}</a>
Press send

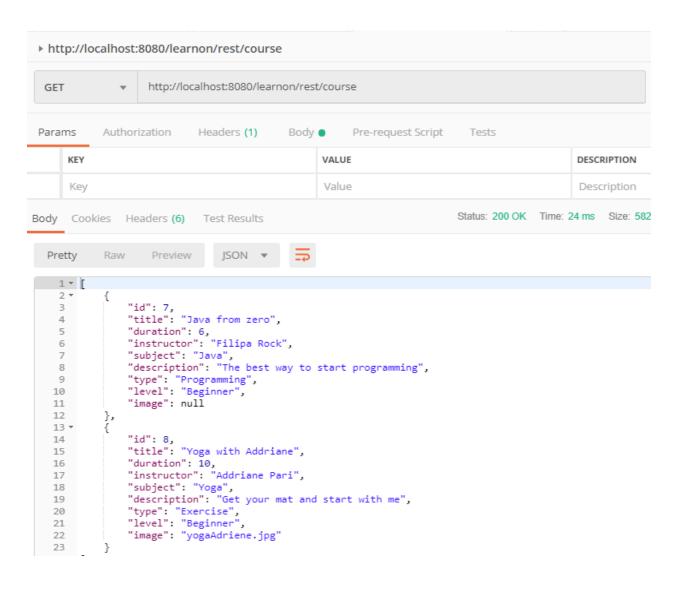
THEN HTTP Response 405 METHOD NOT ALLOWED
Course is not created.



USER STORY 2
SCENARIO 1
So that I can use the data in my client application.

TEST CASE ID
DESCRIPTION
Retrieve data for all courses
GIVEN
The Application Server and Database Server is running
Postman REST Client Opened
WHEN
Set GET request
Enter URL <a href="http://localhost:8080/learon/rest/course">http://localhost:8080/learon/rest/course</a>
Press send

THEN
HTTP Response 200 OK
All database entries are displayed in JSON format

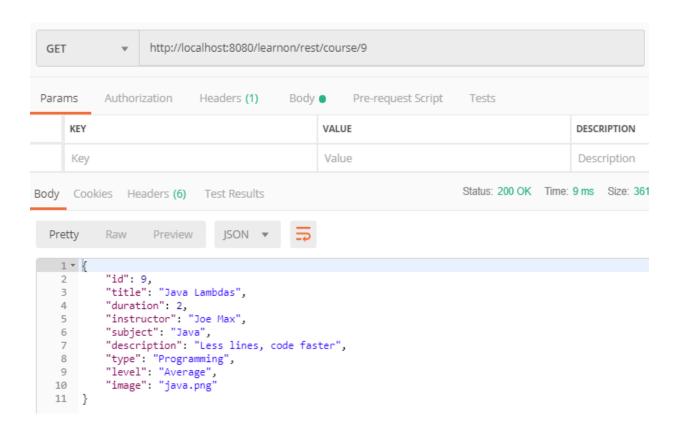


USER STORY 3
SCENARIO 1
SCENARIO 1
based on its ID, so that I can use the data in my client application.

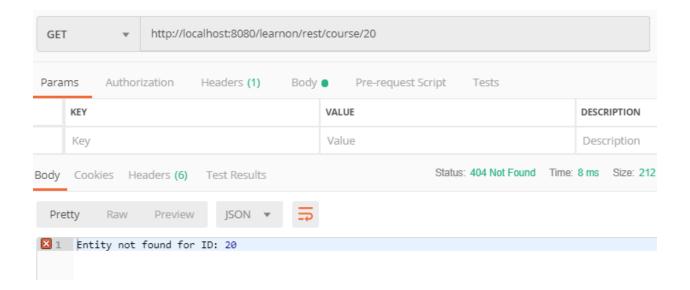
TEST CASE ID
DESCRIPTION
Retrieve data based on ID
GIVEN
The Application Server and Database Server is running
Postman REST Client Opened

WHEN
Set GET request
Enter URL <a href="http://localhost:8080/learon/rest/course/{valid id}">http://localhost:8080/learon/rest/course/{valid id}</a>
Press send

THEN
HTTP Response 200 OK
Details for course displayed in JSON format corresponding to entered ID



USER STORY 3 SCENARIO 2	As an API Consumer, I want to retrieve data in JSON format for one course based on its ID, so that I can use the data in my client application.
TEST CASE ID	8
DESCRIPTION	Inexistent ID is entered when retrieving a course - success
GIVEN	The Application Server and Database Server is running
	Postman REST Client Opened
WHEN	Set GET request
	Enter URL <a href="http://localhost:8080/learon/rest/course/{inexistent id}">http://localhost:8080/learon/rest/course/{inexistent id}</a>
	Press send
THEN	HTTP Response 404 NOT FOUND
	Entity not found for ID: {inexistent id}



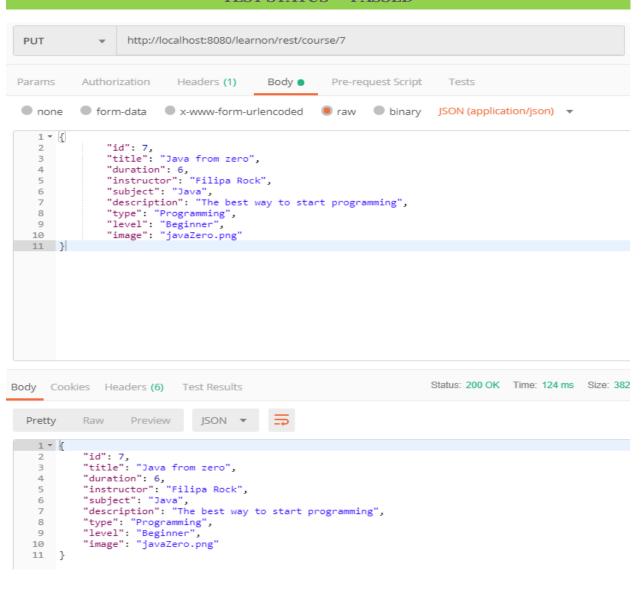
USER STORY 4
SCENARIO 1 through my client application.

TEST CASE ID 9
DESCRIPTION Update data based on ID
GIVEN The Application Server and Database Server is running
Postman REST Client Opened

WHEN Set PUT request
Enter URL <a href="http://localhost:8080/learon/rest/course/{valid id}">http://localhost:8080/learon/rest/course/{valid id}</a>
Press send

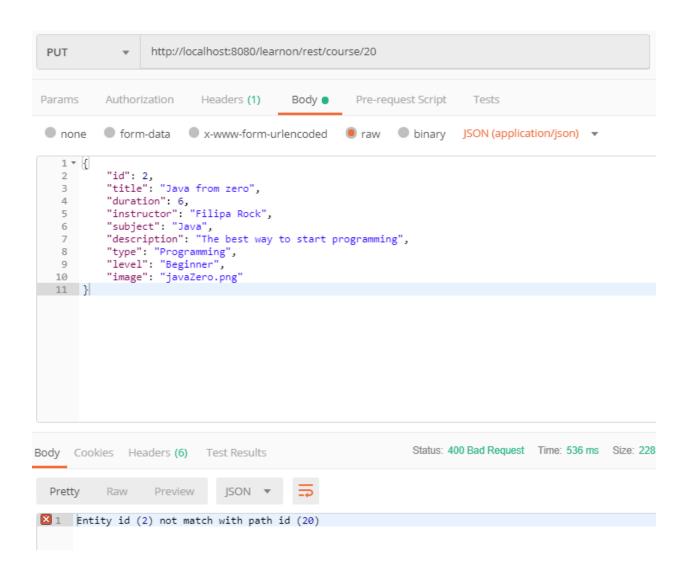
THEN HTTP Response 200 OK

Course to the corresponding entered ID is updated, so results a JSON data to the updated data.



USER STORY 4 As an API Consumer, I want to update a course, so that I can update an entry SCENARIO 2 through my client application. TEST CASE ID 10 DESCRIPTION Update data based on inexistent ID GIVEN The Application Server and Database Server is running Postman REST Client Opened WHEN Set PUT request Enter URL http://localhost:8080/learon/rest/course/{inexistent id} THEN HTTP Response 404 NOT FOUND Update not possible due entity not found for id: {inexistent id} TEST STATUS - PASSED PUT http://localhost:8080/learnon/rest/course/20 Authorization Params Headers (1) Body • Pre-request Script Tests none ■ form-data
■ x-www-form-urlencoded
■ raw
■ binary
JSON (application/json)
▼ 1 \* { "id": 20, "title": "Java from zero", 2 3 "duration": 6, 4 "instructor": "Filipa Rock", 5 "subject": "Java", "description": "The best way to start programming", "type": "Programming", "level": "Beginner", "image": "javaZero.png" 8 9 10 11 } Status: 404 Not Found Time: 550 ms Size: 235 Body Cookies Headers (6) Test Results Pretty Raw Preview JSON T ☑ 1 Update not possible due entity not found for id 20

USER STORY 4
SCENARIO 3
TEST CASE ID
TEST CASE ID
DESCRIPTION
Update data with path ID not matching entity ID
GIVEN
The Application Server and Database Server is running
Postman REST Client Opened
WHEN
Set PUT request
Enter URL <a href="http://localhost:8080/learon/rest/course/{inexistent id}">http://localhost:8080/learon/rest/course/{inexistent id}</a>
Press send
THEN
HTTP Response 400 BAD REQUEST
Entity id (id number) not match with path id (id number).

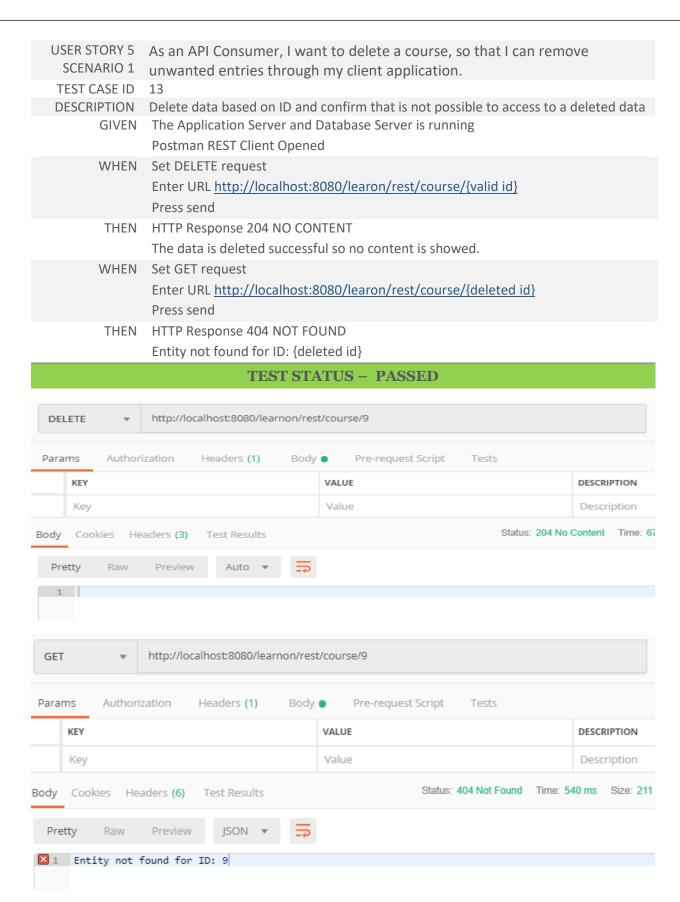


USER STORY 4 As an API Consumer, I want to update a course, so that I can update an entry SCENARIO 4 through my client application. TEST CASE ID 12 DESCRIPTION Calling method PUT without passing ID GIVEN The Application Server and Database Server is running Postman REST Client Opened WHEN Set PUT request Enter URL http://localhost:8080/learon/rest/course/ THEN HTTP Response 405 METHOD NOT ALLOWED No update performed TEST STATUS - PASSED http://localhost:8080/learnon/rest/course/ PUT Params Authorization Headers (1) Body • Pre-request Script form-data

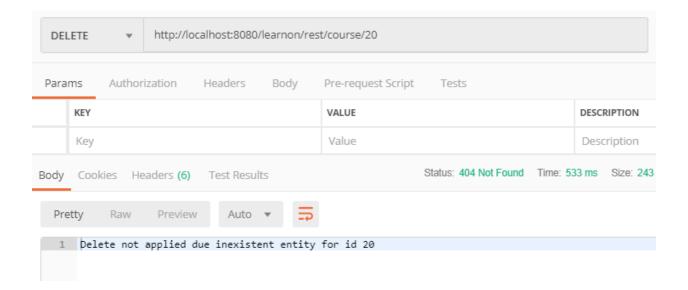
■ x-www-form-urlencoded

■ raw

■ binary JSON (application/json)
▼ none 1 \* [{ "id": 2, "title": "Java from zero", 3 "duration": 6,
"instructor": "Filipa Rock", 5 "subject": "Java", 6 "description": "The best way to start programming", "type": "Programming",
"level": "Beginner",
"image": "javaZero.png" 8 10 11 } Status: 405 Method Not Allowed Time: Body Cookies Headers (6) Test Results Raw Preview Pretty Auto ▼



USER STORY 5 SCENARIO 2	As an API Consumer, I want to delete a course, so that I can remove unwanted entries through my client application.
TEST CASE ID	14
DESCRIPTION	Inexistent ID is entered when deleted a course
GIVEN	The Application Server and Database Server is running
	Postman REST Client Opened
WHEN	Set GET request
	Enter URL <a href="http://localhost:8080/learon/rest/course/{inexistendid}">http://localhost:8080/learon/rest/course/{inexistendid}</a>
	Press send
THEN	HTTP Response 404 NOT FOUND
	Delete not applied due inexistent entity for id {inexistent id}

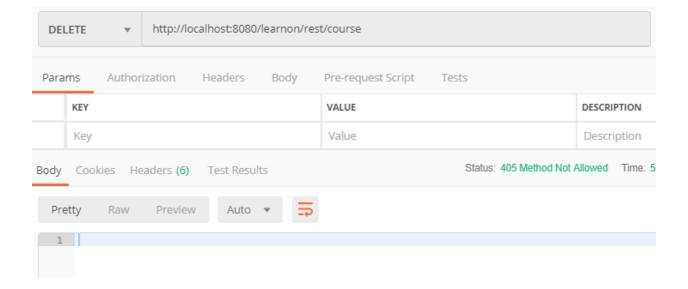


USER STORY 5
SCENARIO 3
unwanted entries through my client application.

TEST CASE ID
DESCRIPTION
Calling method DELETE without passing ID
GIVEN
The Application Server and Database Server is running
Postman REST Client Opened

WHEN
Set GET request
Enter URL <a href="http://localhost:8080/learon/rest/course">http://localhost:8080/learon/rest/course</a>
Press send

THEN
HTTP Response 405 METHOD NOT ALLOWED
No delete is perfomed



USER STORY 6
SCENARIO 1
through my client application.

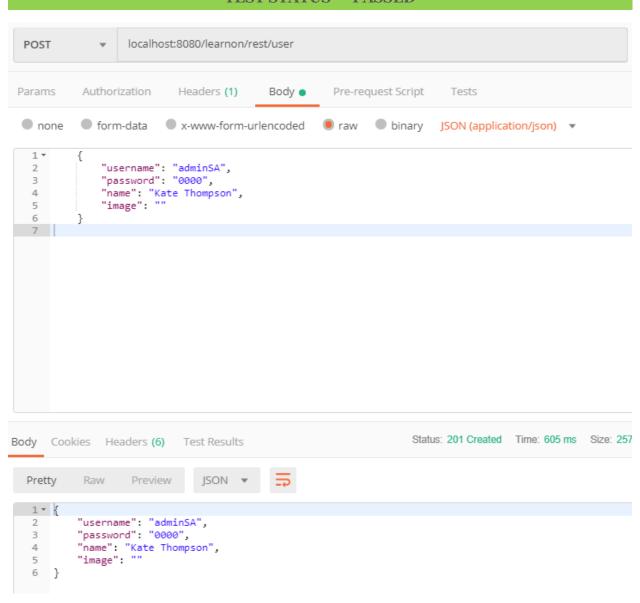
TEST CASE ID 16
DESCRIPTION Add a user successfully
GIVEN The Application Server and Database Server is running
Postman REST Client Opened

WHEN Set POST request
Enter URL http://localhost:8080/learon/rest/user
Press send

THEN HTTP Response 201 CREATED

### TEST STATUS - PASSED

User is created and a JSON data format is generated.



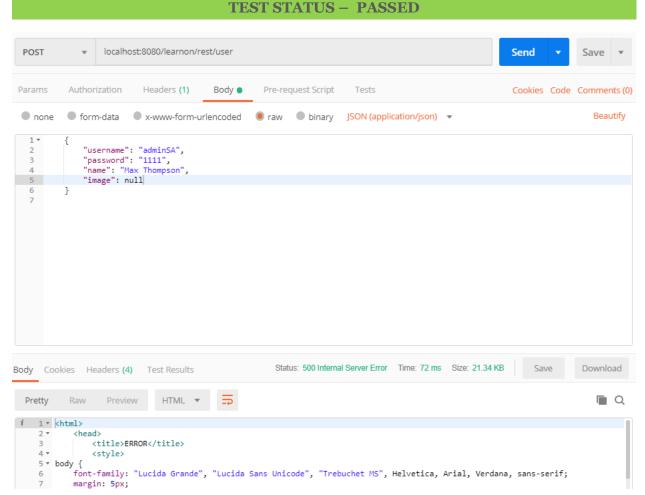
USER STORY 6
SCENARIO 2 through my client application.

TEST CASE ID 17
DESCRIPTION Not possible to add a user with duplicate username
GIVEN The Application Server and Database Server is running
Postman REST Client Opened

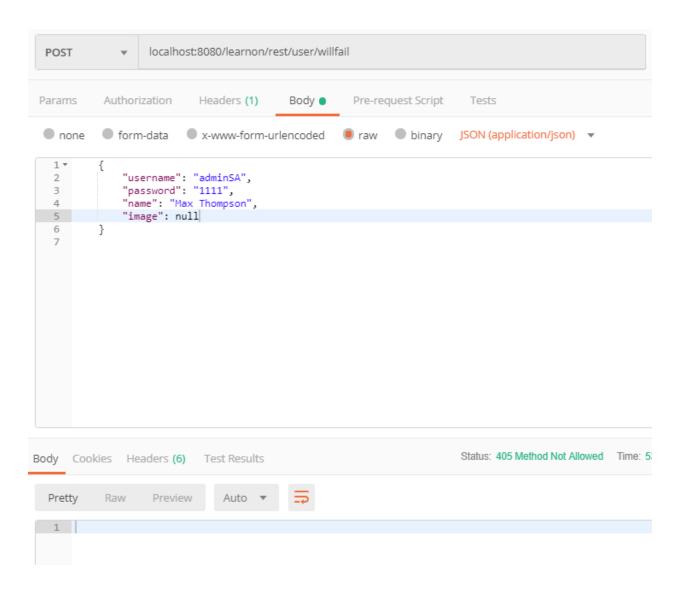
WHEN Set POST request
Enter URL http://localhost:8080/learon/rest/user
Press send

THEN HTTP Response 500 INTERNAL SERVER ERROR

No user is created.



USER STORY 6 SCENARIO 3	As an API Consumer, I want to add a user, so that I can add a new user through my client application.
TEST CASE ID	18
DESCRIPTION	Method POST not exist for the path with username
GIVEN	The Application Server and Database Server is running Postman REST Client Opened
WHEN	Set POST request Enter URL http://localhost:8080/learon/rest/user/{username} Press send
THEN	HTTP Response 405 METHOD NOT ALLOWED  No user is created.



USER STORY 7 As an API Consumer, I want to retrieve data in JSON format for all users, so SCENARIO 1 that I can use the data in my client application.

TEST CASE ID 19

DESCRIPTION Retrieve data for all users

GIVEN The Application Server and Database Server is running

Postman REST Client Opened

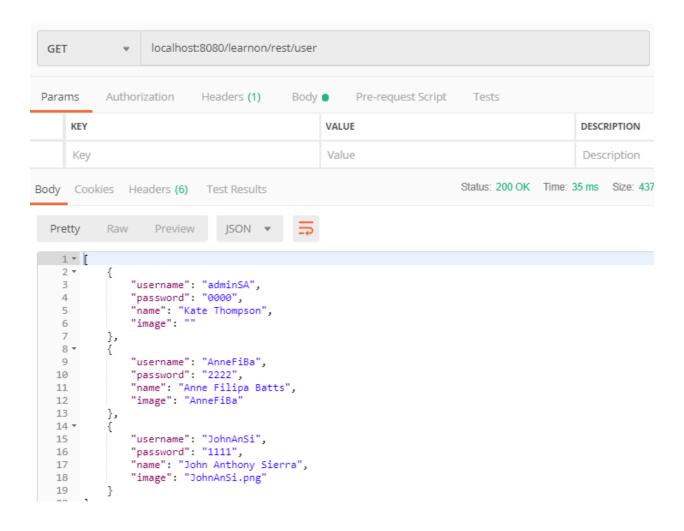
WHEN Set GET request

Enter URL http://localhost:8080/learon/rest/user

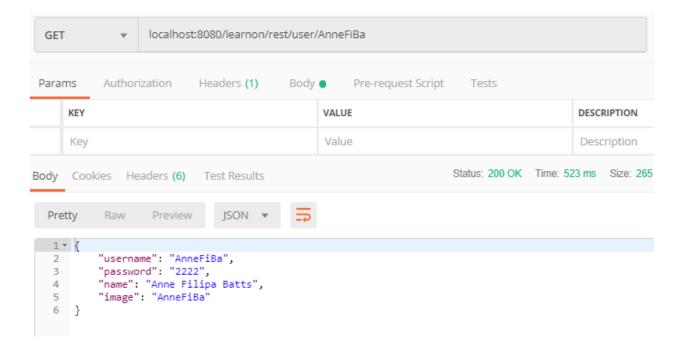
Press send

THEN HTTP Response 200 OK

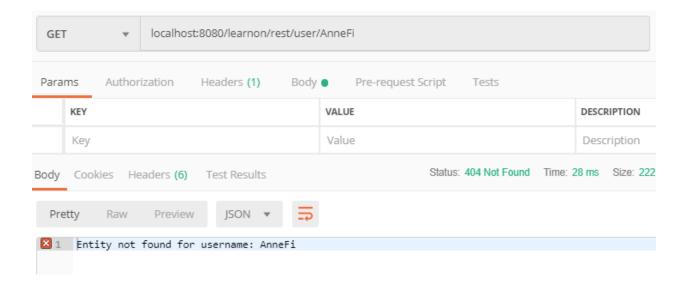
All database entries are displayed in JSON format



	USER STORY 8	As an API Consumer, I want to retrieve data in JSON format for one user
	SCENARIO 1	based on its username, so that I can use the data in my client application.
	TEST CASE ID	20
	DESCRIPTION	Retrieve data based on username
	GIVEN	The Application Server and Database Server is running
		Postman REST Client Opened
	WHEN	Set GET request
		Enter URL <a href="http://localhost:8080/learon/rest/user/{valid username}">http://localhost:8080/learon/rest/user/{valid username}</a>
		Press send
	THEN	HTTP Response 200 OK
		Details for user displayed in JSON format corresponding to entered username

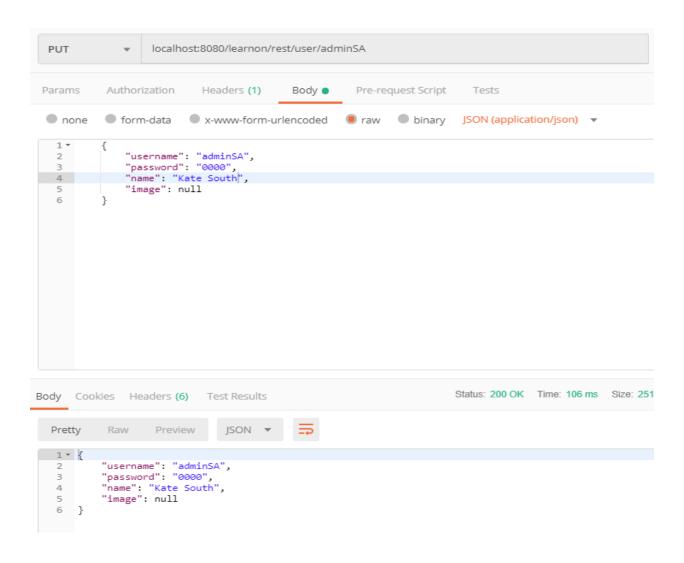


USER STORY 8 SCENARIO 2	As an API Consumer, I want to retrieve data in JSON format for one user based on its username, so that I can use the data in my client application.
TEST CASE ID	21
DESCRIPTION	Inexistent username is entered when retrieving a user
GIVEN	The Application Server and Database Server is running
	Postman REST Client Opened
WHEN	Set GET request
	Enter URL <a href="http://localhost:8080/learon/rest/user/{inexistent username}">http://localhost:8080/learon/rest/user/{inexistent username}</a>
	Press send
THEN	HTTP Response 404 NOT FOUND
	Entity not found for username: {inexistent username}

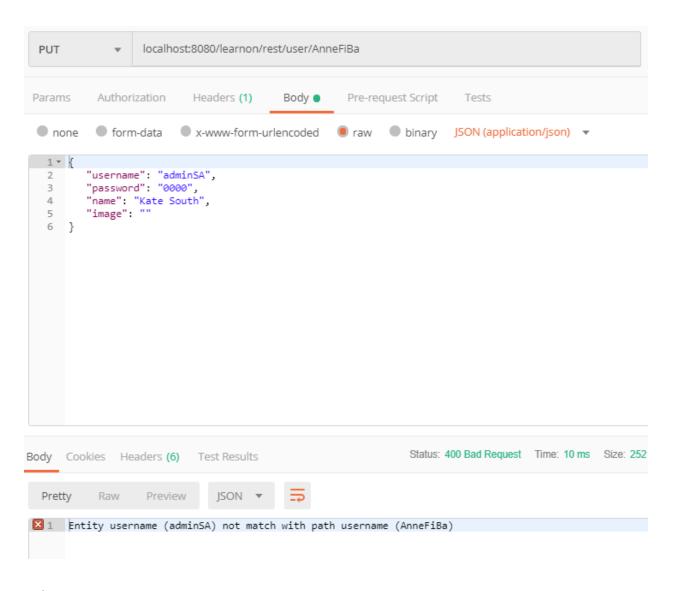


USER STORY 9 As an API Consumer, I want to update a user, so that I can update an entry SCENARIO 1 through my client application. TEST CASE ID 22 DESCRIPTION Update data based on username GIVEN The Application Server and Database Server is running Postman REST Client Opened WHEN Set PUT request Enter URL http://localhost:8080/learon/rest/user/{valid username} Press send THEN HTTP Response 200 OK

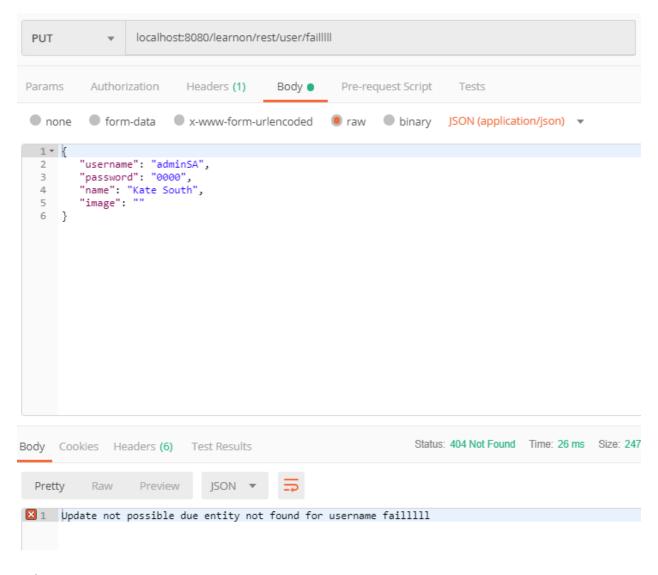
User to the corresponding entered username is updated, so results a JSON data to the updated data.



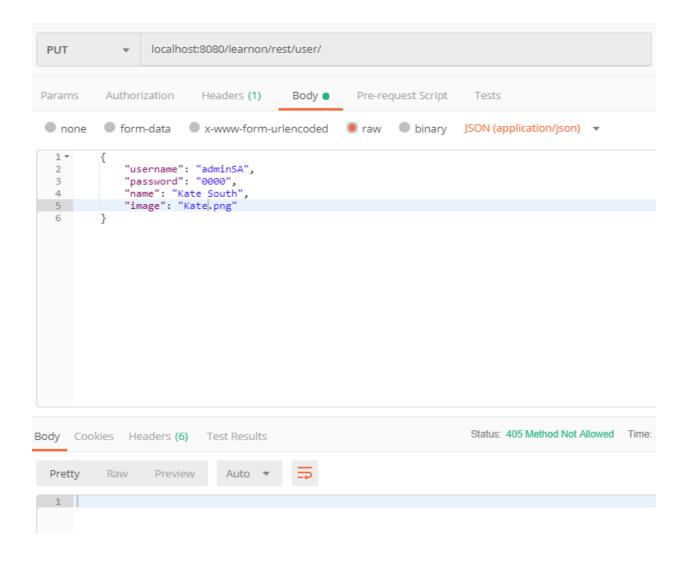
USER STORY 9 SCENARIO 2	As an API Consumer, I want to update a user, so that I can update an entry through my client application.
TEST CASE ID	23
DESCRIPTION	Update data with path username not matching entity username
GIVEN	The Application Server and Database Server is running
	Postman REST Client Opened
WHEN	Set PUT request
	Enter URL <a href="http://localhost:8080/learon/rest/user/{username}">http://localhost:8080/learon/rest/user/{username}</a>
	Press send
THEN	HTTP Response 400 BAD REQUEST
	Entity username (username value) not match with path username (username value)



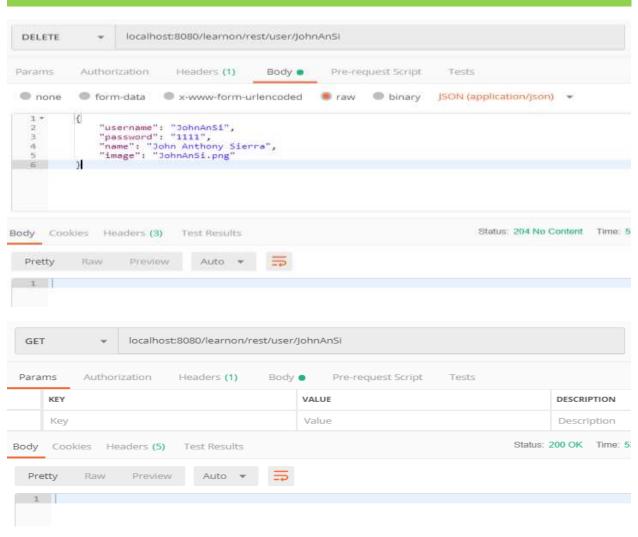
USER STORY 9 SCENARIO 3	As an API Consumer, I want to update a user, so that I can update an entry through my client application.
TEST CASE ID	24
DESCRIPTION	Update data based on inexistent username
GIVEN	The Application Server and Database Server is running Postman REST Client Opened
WHEN	Set PUT request Enter URL http://localhost:8080/learon/rest/user/{inexistent username} Press send
THEN	HTTP Response 404 NOT FOUND  Update not possible due entity not found for user name {inexistent username}



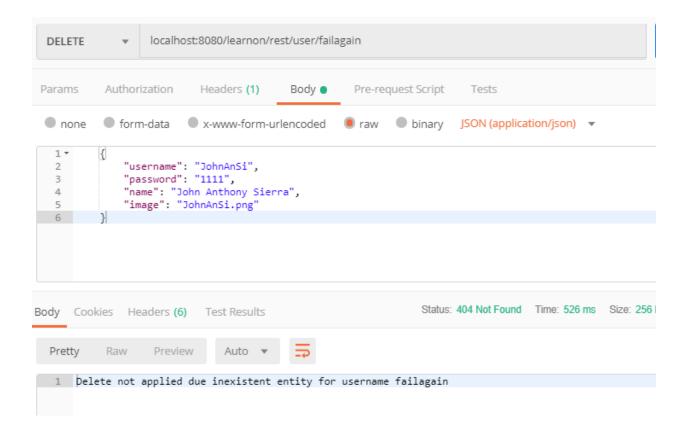
USER STORY 9 SCENARIO 4	As an API Consumer, I want to update a user, so that I can update an entry through my client application.
TEST CASE ID	25
DESCRIPTION	Calling method PUT without passing username
GIVEN	The Application Server and Database Server is running Postman REST Client Opened
WHEN	Set PUT request Enter URL http://localhost:8080/learon/rest/user/ Press send
THEN	HTTP Response 405 METHOD NOT ALLOWED  User details are not updated



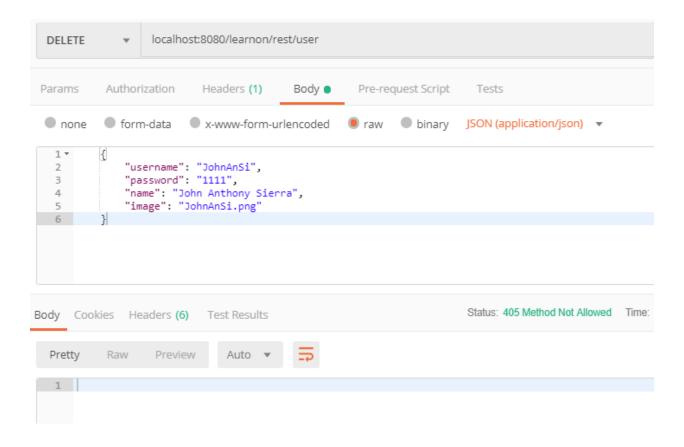
USER STORY 10 As an API Consumer, I want to delete a user, so that I can remove unwanted entries through SCENARIO 1 my client application. TEST CASE ID 26 DESCRIPTION Delete data based on username and confirm that is not possible to access to a deleted data GIVEN The Application Server and Database Server is running Postman REST Client Opened WHEN Set DELETE request Enter URL http://localhost:8080/learon/rest/user/{valid username} Press send THEN HTTP Response 204 NO CONTENT The data is deleted successful so no content is showed WHEN Set GET request Enter URL http://localhost:8080/learon/rest/username/{deleted username} Press send THEN HTTP Response 200 OK User to the corresponding entered username is erased, so results an empty JSON data to the GET to the same username



	USER STORY 10 SCENARIO 2	As an API Consumer, I want to delete a user, so that I can remove unwanted entries through my client application.
	TEST CASE ID	27
	DESCRIPTION	Inexistent username is entered when deleted a user
	GIVEN	The Application Server and Database Server is running
		Postman REST Client Opened
	WHEN	Set DELETE request
		Enter URL <a href="http://localhost:8080/learon/rest/user/{inexistent username}">http://localhost:8080/learon/rest/user/{inexistent username}</a>
		Press send
	THEN	HTTP Response 404 NOT FOUND
		Delete not applied due inexistent entity for username {inexistent username}



		As an API Consumer, I want to delete a user, so that I can remove unwanted entries through my client application.
	TEST CASE ID	28
	DESCRIPTION	Calling method DELETE without passing username
	GIVEN	The Application Server and Database Server is running
		Postman REST Client Opened
	WHEN	Set DELETE request
		Enter URL http://localhost:8080/learon/rest/user
		Press send
	THEN	HTTP Response 405 METHOD NOT ALLOWED
		User is not deleted



# 4. TEST REPORT SUMMARY

TEST TYPE	TOTAL SCENARIOS	NUMBER PASSED	NUMBER FAILED
Manual	28	28	0

# **5. BUG REPORT**

<b>BUG ID</b>	<b>DESCRIPTION OF BUG</b>	<b>STATUS</b>
US4 SC3 BI1	When trying update using an inexistent ID in the path, a new entity	SOLVED
	is created and an ID is generated.	

There are currently no known existing bugs in this project