

*Software Development Assignment*

*Project Duration: 2018/12/21 to 2018/12/31*

**TECHNICAL REPORT**

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ReGeneration Finalist

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## Contents

A. Application Files Links .....	3
B. SQL structure & data dump .....	3
C. Instructions to open project for IntelliJ IDE (VCS+Maven) .....	3
D. Assignment Description .....	4
E. Guidelines – Technologies Used .....	4
F. Web Application Structure .....	5
G. Web Application’s Previews .....	6
H. Maven Dependency tree.....	12
 <b>Figure 1</b> When IntelliJ is executed, select to Checkout from Version Control/Git .....	3
<b>Figure 2</b> Paste in the url option the GitHub's Repo Link-select directory of output folder-press clone .....	4
<b>Figure 3</b> Index Page of the web app displays all the table's records from the db .....	6
<b>Figure 4</b> Search via email page, regarding jcollins@testmail.gr (more than one users with this email address were deliberately added to the dB records) .....	6
<b>Figure 5</b> Search via email page, regarding alexgazis@ee.duth.gr .....	7
<b>Figure 6</b> Search via email page, for no user input .....	7
<b>Figure 7</b> Search via email regarding generic@newtestmail.gr (email address doesn't exist in the dB's records) .....	7
<b>Figure 8</b> Postman's application Get request regarding the Index Page of the web app .....	8
<b>Figure 9</b> Postman's application Get request regarding the Index Page of the web app .....	8
<b>Figure 10</b> Postman's application Get request regarding Search via email (generic@newtestmail.gr) .....	9
<b>Figure 11</b> Postman's application Get request regarding Search via email (no input).....	9
<b>Figure 12</b> a. Db's records the database before the Post request, b. Postman Post request regarding inserting a new entry to the db, c. Db's records the database after the Post request.....	10
<b>Figure 13</b> a. Db's records the database before the Post request, b. Postman Post request for inserting a new entry to the dB (in this case the dB entry exists, so it updates its values), c. Db's records the database after the Post request.....	11

## A. Application Files Links

[1.Project's GitHub Repository](#)

[2.SQL structure & data dump file](#)

## B. SQL structure & data dump

- Regarding the Dbs username and password credentials:

In the application.properties(/src/main/resources) file, change lines: 8(username) and 11(password)

- Regarding the Dbs name:

In the application.properties(/src/main/resources) file, change line: 5 there is the following command:  
spring.datasource.url =

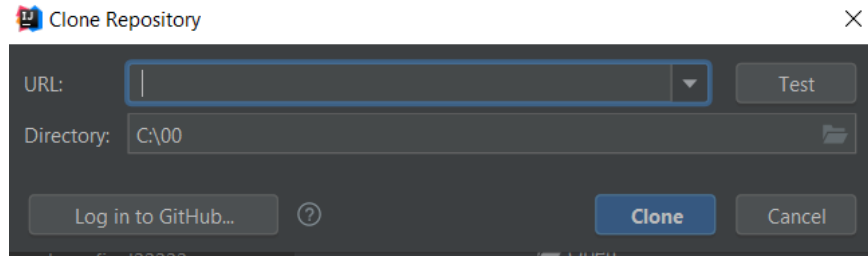
jdbc:mysql://localhost:3306/**project1**?verifyServerCertificate=false&useSSL=false&requireSSL=false

- Note: CHANGE ONLY: **project1** with the name of your **local machine's db name**.

## C. Instructions to open project for IntelliJ IDE (VCS+Maven)



**Figure 1** When IntelliJ is executed, select to Checkout from Version Control/Git



**Figure 2** Paste in the url option the GitHub's Repo Link-select directory of output folder-press clone

## D. Assignment Description

Development of a (simple) web application using a REST API, which will handle information storage and retrieval requests for a group of users.

The web application needed to implement the following functionalities:

1. Storage of user information in a local database, via a POST request that will handle the user information.  
This information will include the following fields: `<first_name, last_name, email, gender, ip_address>`
2. Querying of the database, in order to retrieve specific user information, via a GET request. This query was developed using the user's email address, whereas similar implementation can be induced using the ip address.

## E. Guidelines – Technologies Used

- *You may choose any database:*

The database used for this web application was MySQL version 8.0.13.

```

MySQL 8.0 Command Line Client
Enter password: *****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 11
Server version: 8.0.13 MySQL Community Server - GPL

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Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

```

- *The result code should be implemented in Java*

The result code is implemented in Java version 11.0.1.

```
Command Prompt
Microsoft Windows [Version 10.0.17134.407]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\alehu>mvn -v
Apache Maven 3.6.0 (97c98ec64a1fdfee7767ce5fffb20918da4f719f3; 2018-10-24T21:41:47+03:00)
Maven home: C:\Program Files\apache-maven-3.6.0\bin\..
Java version: 11.0.1, vendor: Oracle Corporation, runtime: C:\Program Files\Java\jdk-11.0.1
Default locale: en_US, platform encoding: Cp1253
OS name: "windows 10", version: "10.0", arch: "amd64", family: "windows"
```

- *You can use any framework you desire, and any tool you wish.*

The framework used was Java's Spring Boot for backend and Bootstrap v.4 for the frontend. The tools used were:

- IDE: IntelliJ IDEA Ultimate 18.03
- Editor: Notepad ++, Sublime
- Database administration & management: MySQL Workbench Community v.8.0.13, DBeaver Community v.5.2.4.201811951019
- Internet Browser: Google Chrome v.71.0.3578.98
- Functionality Testing: Postman v6.6.1

## F. Web Application Structure

The application developed implements the following methods (using FTL pages):

### 1. /:

Displays all the records of the database. If the database (consisting of 1 table) is empty, this page shall display an empty table. This option was deliberately selected, so as to provide some basic information, regarding the dB's fields to the user of the application.

Each column name is according to the dB's fields, as a convenient measure to help the testing of our application (creating get/post parameters via postman application).

### 2. /saveUser:

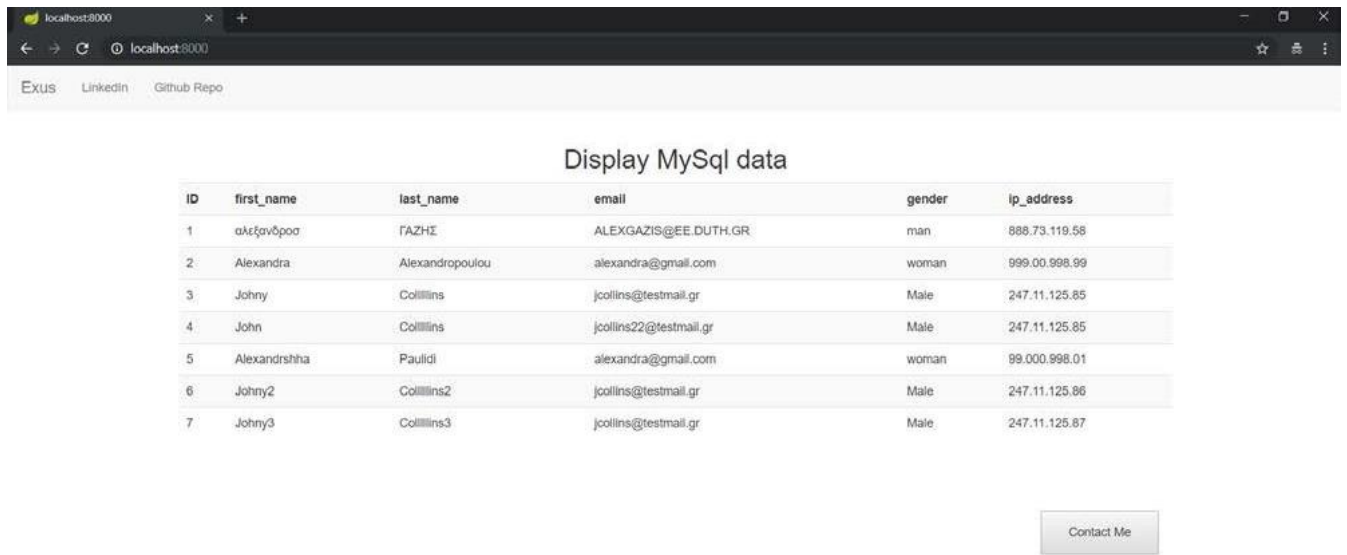
When the proper post parameter is sent from postman application, it stores the inserted value to the dB and then redirects the user to the /allUsers page, in order to display all the values. If the id provided already exists, it shall update the tuple's fields.

### 3. /getUser:

When the proper post parameter is sent from postman application, the user is redirected to a new site.

If no entry is found (or wrong search input is provided) it displays a plain text message. If one or more entries exist, each row is presented in a table.

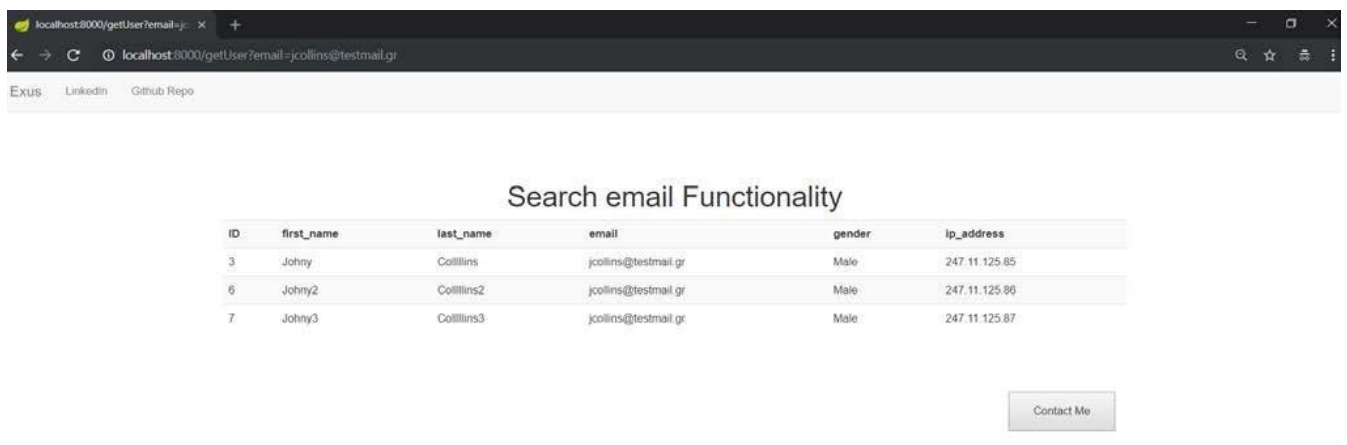
## G. Web Application's Previews



The screenshot shows a web browser window at localhost:8000. The page has a navigation bar with links for 'Exus', 'LinkedIn', and 'Github Repo'. The main content area is titled 'Display MySql data' and contains a table with 7 rows of user data. Below the table is a 'Contact Me' button.

ID	first_name	last_name	email	gender	ip_address
1	αλεξάνδρος	ΓΑΖΗΣ	ALEXGAZIS@EE.DUTH.GR	man	888.73.119.58
2	Alexandra	Alexandropoulou	alexandra@gmail.com	woman	999.00.998.99
3	Johny	Collilins	jcollins@testmail.gr	Male	247.11.125.85
4	John	Collilins	jcollins22@testmail.gr	Male	247.11.125.85
5	Alexandrshiha	Paulidi	alexandra@gmail.com	woman	99.000.998.01
6	Johny2	Collilins2	jcollins@testmail.gr	Male	247.11.125.86
7	Johny3	Collilins3	jcollins@testmail.gr	Male	247.11.125.87

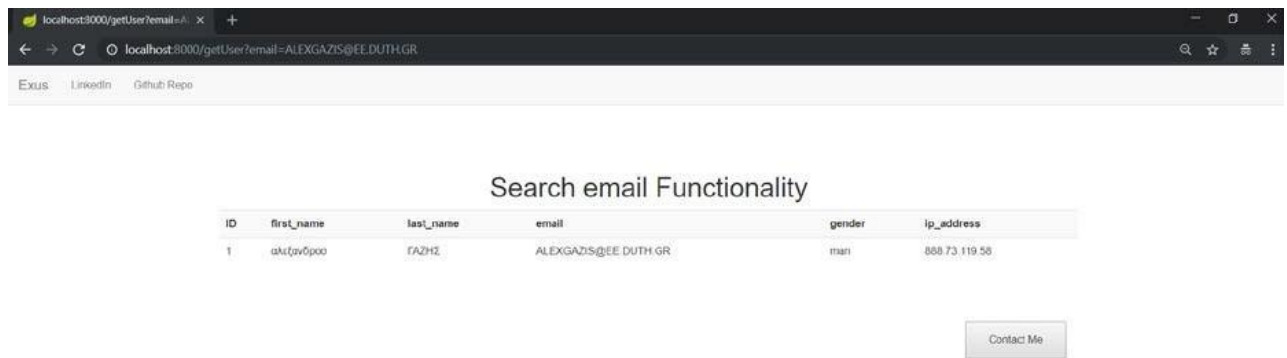
**Figure 3** Index Page of the web app displays all the table's records from the db



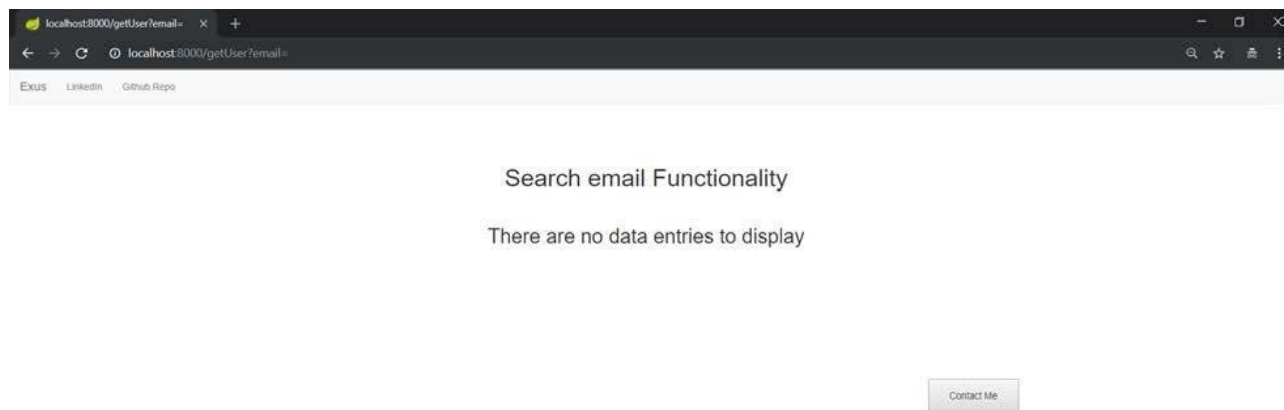
The screenshot shows a web browser window at localhost:8000/getUser?email=jcollins@testmail.gr. The page is titled 'Search email Functionality' and displays a table with 3 rows of user data. Below the table is a 'Contact Me' button.

ID	first_name	last_name	email	gender	ip_address
3	Johny	Collilins	jcollins@testmail.gr	Male	247.11.125.85
6	Johny2	Collilins2	jcollins@testmail.gr	Male	247.11.125.86
7	Johny3	Collilins3	jcollins@testmail.gr	Male	247.11.125.87

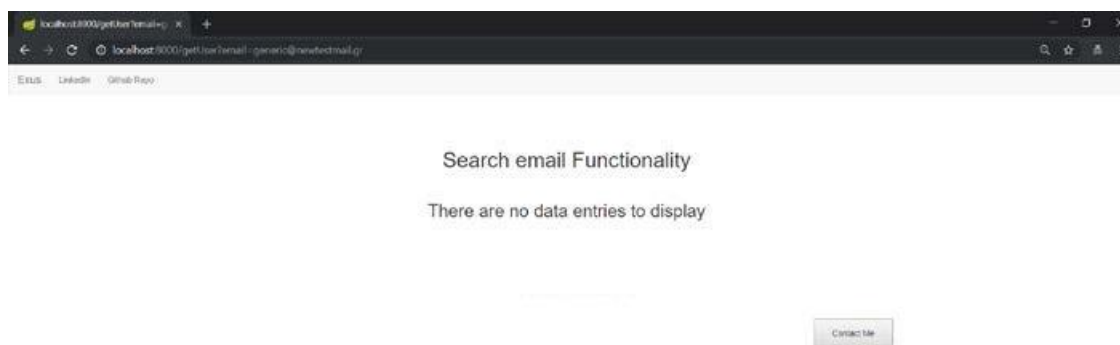
**Figure 4** Search via email page, regarding jcollins@testmail.gr (more than one users with this email address were deliberately added to the dB records)



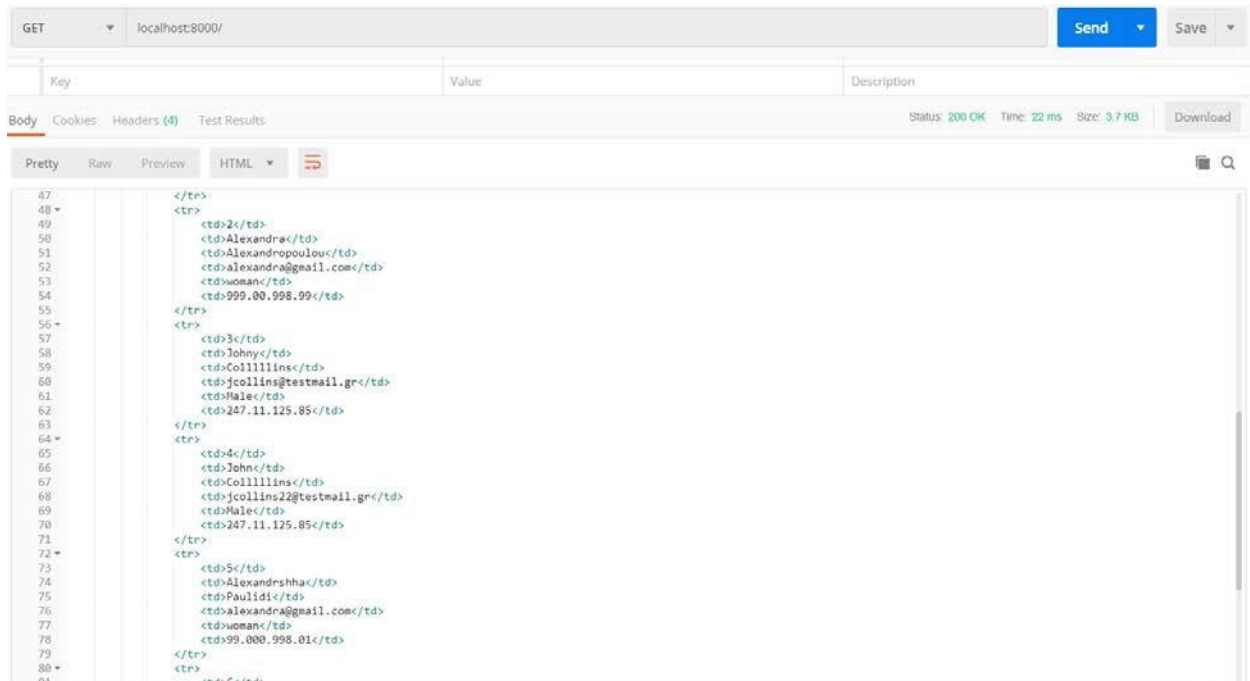
**Figure 5** Search via email page, regarding alexgazit@ee.duth.gr



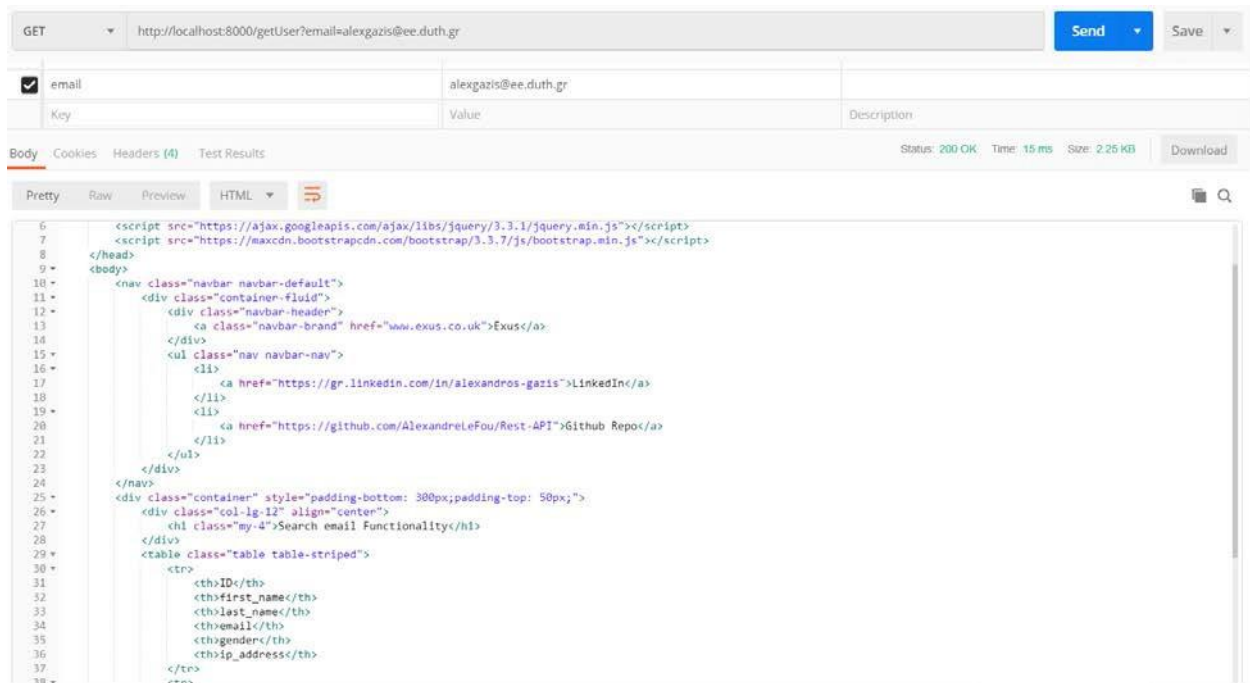
**Figure 6** Search via email page, for no user input



**Figure 7** Search via email regarding generic@newtestmail.gr (email address doesn't exist in the dB's records)

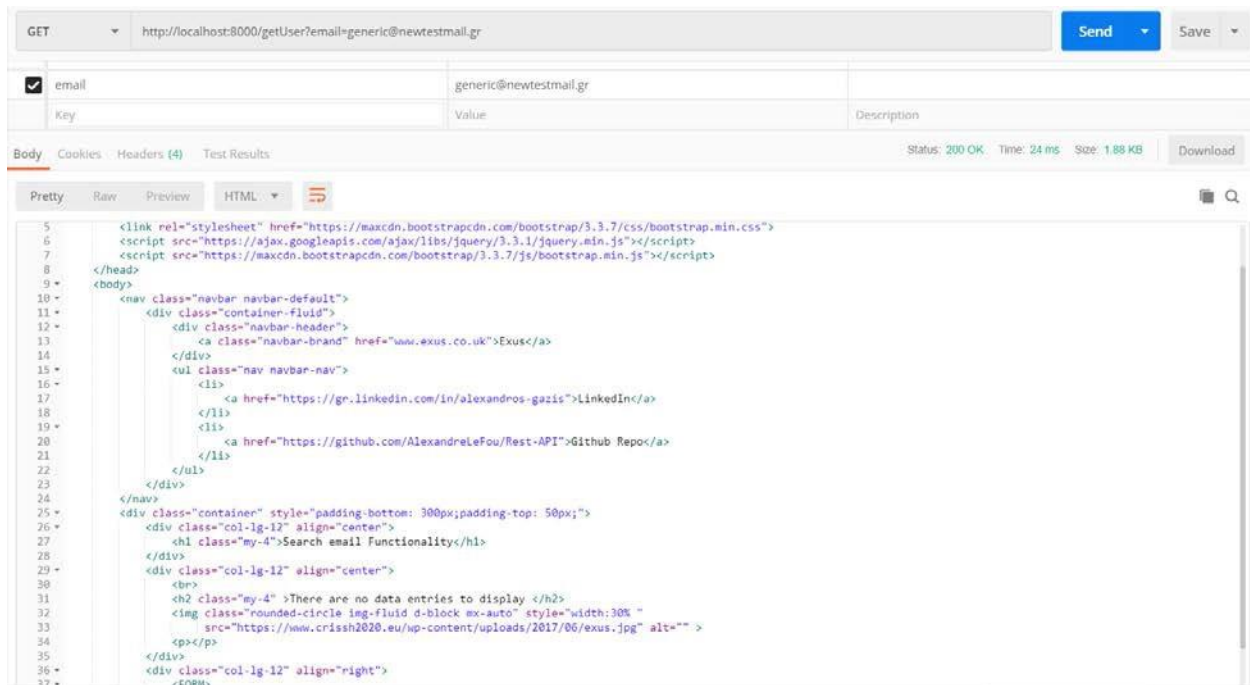


**Figure 8** Postman's application Get request regarding the Index Page of the web app

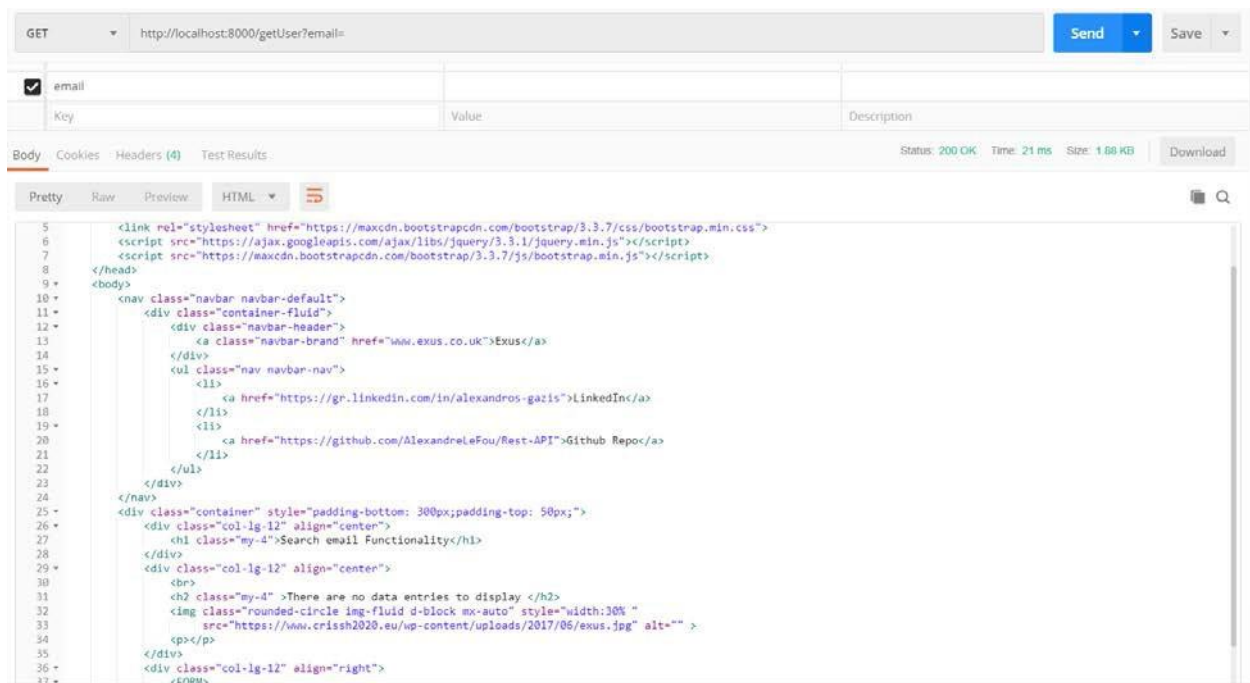


**Figure 9** Postman's application Get request regarding Search via email (alevgazis@ee.duth.gr)





**Figure 10** Postman's application Get request regarding Search via email (generic@newtestmail.gr)



**Figure 11** Postman's application Get request regarding Search via email (no input)

A.

	id	first_name	last_name	email	gender	ip_address
▶	1	αλεξανδρος	ΓΑΖΗΣ	ALEXGAZIS@EE.DUTH.GR	man	888.73.119.58
	2	Alexandra	Alexandropoulou	alexandra@gmail.com	woman	999.00.998.99
	3	Johny	Collins	jcollins@testmail.gr	Male	247.11.125.85
	4	John	Collins	jcollins22@testmail.gr	Male	247.11.125.85
	5	Alexandrshha	Paulidi	alexandra@gmail.com	woman	99.000.998.01
	6	Johny2	Collins2	jcollins@testmail.gr	Male	247.11.125.86
	7	Johny3	Collins3	jcollins@testmail.gr	Male	247.11.125.87

B.

http://localhost:8000/saveUser

POST

http://localhost:8000/saveUser

Send

Save

ParamsAuthorizationHeaders (1)BodyPre-request ScriptTests

noneform-datax-www-form-urlencodedrowbinaryJSON (application/json)

Beautify

1 { "id": 8, "first\_name": "John", "last\_name": "Collins", "email": "jcollins@testmail.gr", "gender": "Male", "ip\_address": "247.11.125.85" }

BodyCookiesHeaders (4)Test Results

Status: 200 OKTime: 167 msSize: 3.93 KBDownload

PrettyRawPreviewHTML

86<td>247.11.125.86</td>

87</tr>

88<tr>

89<td>7</td>

90<td>Johny3</td>

91<td>Collins3</td>

92<td>jcollins@testmail.gr</td>

93<td>Male</td>

94<td>247.11.125.87</td>

95</tr>

96<tr>

97<td>8</td>

98<td>John</td>

99<td>Collins</td>

100<td>jcollins@testmail.gr</td>

101<td>Male</td>

102<td>247.11.125.85</td>

103</tr>

{ "id": 8, "first\_name": "John", "last\_name": "Collins", "email": "jcollins@testmail.gr", "gender": "Male", "ip\_address": "247.11.125.85" }

D.

	id	first_name	last_name	email	gender	ip_address
▶	1	αλεξανδρος	ΓΑΖΗΣ	ALEXGAZIS@EE.DUTH.GR	man	888.73.119.58
	2	Alexandra	Alexandropoulou	alexandra@gmail.com	woman	999.00.998.99
	3	Johny	Collins	jcollins@testmail.gr	Male	247.11.125.85
	4	John	Collins	jcollins22@testmail.gr	Male	247.11.125.85
	5	Alexandrshha	Paulidi	alexandra@gmail.com	woman	99.000.998.01
	6	Johny2	Collins2	jcollins@testmail.gr	Male	247.11.125.86
	7	Johny3	Collins3	jcollins@testmail.gr	Male	247.11.125.87
	8	John	Collins	jcollins@testmail.gr	Male	247.11.125.85

**Figure 12** a. Db's records the database before the Post request, b. Postman Post request regarding inserting a new entry to the db, c. Db's records the database after the Post request

A.

	id	first_name	last_name	email	gender	ip_address
	1	αλεξανδρος	ΓΑΖΗΣ	ALEXGAZIS@EE.DUTH.GR	man	888.73.119.58
	2	Alexandra	Alexandropoulou	alexandra@gmail.com	woman	999.00.998.99
	3	Johnny	Collins	jcollins@testmail.gr	Male	247.11.125.85
	4	John	Collins	jcollins22@testmail.gr	Male	247.11.125.85
	5	Alexandrshha	Paulidi	alexandra@gmail.com	woman	99.000.998.01
	6	Johnny2	Collins2	jcollins@testmail.gr	Male	247.11.125.86
	7	Johnny3	Collins3	jcollins@testmail.gr	Male	247.11.125.87
	8	John	Collins	jcollins@testmail.gr	Male	247.11.125.85

B.

http://localhost:8000/saveUser

POST

http://localhost:8000/saveUser

Send

Save

Params

Authorization

Headers (1)

Body

Pre-request Script

Tests

Cookies

Code

none

form-data

x-www-form-urlencoded

raw

binary

JSON (application/json)

Beautify

```
[{"id": 8, "first_name": "New John", "last_name": "New Collins", "email": "new_jcollins@testmail.gr", "gender": "Male", "ip_address": "247.11.125.86"}]
```

Body

Cookies

Headers (4)

Test Results

Status: 200 OK

Time: 133 ms

Size: 3.94 KB

Download

Pretty

Raw

Preview

HTML

```
<td>247.11.125.86</td>
</tr>
<tr>
<td>7</td>
<td>Johnny3</td>
<td>Collins3</td>
<td>jcollins@testmail.gr</td>
<td>Male</td>
<td>247.11.125.87</td>
</tr>
<tr>
<td>8</td>
<td>New John</td>
<td>New Collins</td>
<td>new_jcollins@testmail.gr</td>
<td>Male</td>
<td>247.11.125.86</td>
</tr>
```

{ "id": 8, "first\_name": "New John", "last\_name": "New Collins", "email": "new\_jcollins@testmail.gr", "gender": "Male", "ip\_address": "247.11.125.86" }

C.

	id	first_name	last_name	email	gender	ip_address
	1	αλεξανδρος	ΓΑΖΗΣ	ALEXGAZIS@EE.DUTH.GR	man	888.73.119.58
	2	Alexandra	Alexandropoulou	alexandra@gmail.com	woman	999.00.998.99
	3	Johnny	Collins	jcollins@testmail.gr	Male	247.11.125.85
	4	John	Collins	jcollins22@testmail.gr	Male	247.11.125.85
	5	Alexandrshha	Paulidi	alexandra@gmail.com	woman	99.000.998.01
	6	Johnny2	Collins2	jcollins@testmail.gr	Male	247.11.125.86
	7	Johnny3	Collins3	jcollins@testmail.gr	Male	247.11.125.87
	8	New John	New Collins	new_jcollins@testmail.gr	Male	247.11.125.86

**Figure 13** a. Db's records the database before the Post request, b. Postman Post request for inserting a new entry to the dB (in this case the dB entry exists, so it updates its values), c. Db's records the database after the Post request

## H. Maven Dependency tree

Upon executing the `$ mvn dependency:tree`, the created maven dependency tree file was the following:

```
[INFO] -----< ExampleApp:demoapp >-----
[INFO] Building demoapp 0.0.1-SNAPSHOT
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- maven-dependency-plugin:3.1.1:tree (default-cli) @ demoapp ---
[INFO] ExusApp:demoapp:jar:0.0.1-SNAPSHOT
[INFO] +- org.springframework.boot:spring-boot-starter-freemarker:jar:2.1.1.RELEASE:compile
[INFO] | +- org.springframework.boot:spring-boot-starter:jar:2.1.1.RELEASE:compile
[INFO] | | +- org.springframework.boot:spring-boot:jar:2.1.1.RELEASE:compile
[INFO] | | | +- org.springframework.boot:spring-boot-autoconfigure:jar:2.1.1.RELEASE:compile
[INFO] | | | +- org.springframework.boot:spring-boot-starter-logging:jar:2.1.1.RELEASE:compile
[INFO] | | | | +- ch.qos.logback:logback-classic:jar:1.2.3:compile
[INFO] | | | | \- ch.qos.logback:logback-core:jar:1.2.3:compile
[INFO] | | | +- org.apache.logging.log4j:log4j-to-slf4j:jar:2.11.1:compile
[INFO] | | | | \- org.apache.logging.log4j:log4j-api:jar:2.11.1:compile
[INFO] | | | \- org.slf4j:jul-to-slf4j:jar:1.7.25:compile
[INFO] | | +- javax.annotation:javax.annotation-api:jar:1.3.2:compile
[INFO] | | \- org.yaml:snakeyaml:jar:1.23:runtime
[INFO] | +- org.freemarker:freemarker:jar:2.3.28:compile
[INFO] | \- org.springframework:spring-context-support:jar:5.1.3.RELEASE:compile
[INFO] +- org.springframework.boot:spring-boot-starter-web:jar:2.1.1.RELEASE:compile
[INFO] | +- org.springframework.boot:spring-boot-starter-json:jar:2.1.1.RELEASE:compile
```

```

[INFO] | | +- com.fasterxml.jackson.core:jackson-databind:jar:2.9.7:compile
[INFO] | | | +- com.fasterxml.jackson.core:jackson-annotations:jar:2.9.0:compile
[INFO] | | | \- com.fasterxml.jackson.core:jackson-core:jar:2.9.7:compile
[INFO] | | +- com.fasterxml.jackson.datatype:jackson-datatype-jdk8:jar:2.9.7:compile
[INFO] | | +- com.fasterxml.jackson.datatype:jackson-datatype-jsr310:jar:2.9.7:compile
[INFO] | | \- com.fasterxml.jackson.module:jackson-module-parameter-names:jar:2.9.7:compile
[INFO] +- org.springframework.boot:spring-boot-starter-tomcat:jar:2.1.1.RELEASE:compile
[INFO] | | +- org.apache.tomcat.embed:tomcat-embed-core:jar:9.0.13:compile
[INFO] | | +- org.apache.tomcat.embed:tomcat-embed-el:jar:9.0.13:compile
[INFO] | | \- org.apache.tomcat.embed:tomcat-embed-websocket:jar:9.0.13:compile
[INFO] +- org.hibernate.validator:hibernate-validator:jar:6.0.13.Final:compile
[INFO] | | +- javax.validation:validation-api:jar:2.0.1.Final:compile
[INFO] | | +- org.jboss.logging:jboss-logging:jar:3.3.2.Final:compile
[INFO] | | \- com.fasterxml.classmate:jar:1.4.0:compile
[INFO] +- org.springframework:spring-web:jar:5.1.3.RELEASE:compile
[INFO] \- org.springframework:spring-webmvc:jar:5.1.3.RELEASE:compile
[INFO] | \- org.springframework:spring-expression:jar:5.1.3.RELEASE:compile
[INFO] +- mysql:mysql-connector-java:jar:8.0.13:runtime
[INFO] +- org.springframework.boot:spring-boot-starter-test:jar:2.1.1.RELEASE:test
[INFO] | +- org.springframework.boot:spring-boot-test:jar:2.1.1.RELEASE:test
[INFO] | +- org.springframework.boot:spring-boot-test-autoconfigure:jar:2.1.1.RELEASE:test
[INFO] | +- com.jayway.jsonpath:json-path:jar:2.4.0:test
[INFO] | | \- net.minidev:json-smart:jar:2.3:test
[INFO] | | | \- net.minidev:accessors-smart:jar:1.2:test
[INFO] | | | \- org.ow2.asm:asm:jar:5.0.4:test

```

[INFO] | +- junit:junit:jar:4.12:test

[INFO] | +- org.assertj:assertj-core:jar:3.11.1:test

[INFO] | +- org.mockito:mockito-core:jar:2.23.4:test

[INFO] | | +- net.bytebuddy:byte-buddy:jar:1.9.5:compile

[INFO] | | +- net.bytebuddy:byte-buddy-agent:jar:1.9.5:test

[INFO] | | \- org.objenesis:objenesis:jar:2.6:test

[INFO] | +- org.hamcrest:hamcrest-core:jar:1.3:test

[INFO] | +- org.hamcrest:hamcrest-library:jar:1.3:test

[INFO] | +- org.skyscreamer:jsonassert:jar:1.5.0:test

[INFO] | | \- com.vaadin.external.google:android-json:jar:0.0.20131108.vaadin1:test

[INFO] | +- org.springframework:spring-core:jar:5.1.3.RELEASE:compile

[INFO] | | \- org.springframework:spring-jcl:jar:5.1.3.RELEASE:compile

[INFO] | +- org.springframework:spring-test:jar:5.1.3.RELEASE:test

[INFO] | \- org.xmlunit:xmlunit-core:jar:2.6.2:test

[INFO] +- org.springframework.security:spring-security-test:jar:5.1.2.RELEASE:test

[INFO] | +- org.springframework.security:spring-security-core:jar:5.1.2.RELEASE:test

[INFO] | \- org.springframework.security:spring-security-web:jar:5.1.2.RELEASE:test

[INFO] +- javax.persistence:javax.persistence-api:jar:2.2:compile

[INFO] +- org.springframework.boot:spring-boot-starter-data-jpa:jar:2.1.1.RELEASE:compile

[INFO] | +- org.springframework.boot:spring-boot-starter-aop:jar:2.1.1.RELEASE:compile

[INFO] | | \- org.aspectj:aspectjweaver:jar:1.9.2:compile

[INFO] | +- org.springframework.boot:spring-boot-starter-jdbc:jar:2.1.1.RELEASE:compile

[INFO] | | +- com.zaxxer:HikariCP:jar:3.2.0:compile

[INFO] | | \- org.springframework:spring-jdbc:jar:5.1.3.RELEASE:compile

[INFO] | +- javax.transaction:javax.transaction-api:jar:1.3:compile

```
[INFO] | +- javax.xml.bind:jaxb-api:jar:2.3.1:compile
[INFO] | | \- javax.activation:javax.activation-api:jar:1.2.0:compile
[INFO] | +- org.hibernate:hibernate-core:jar:5.3.7.Final:compile
[INFO] | | +- org.javassist:javassist:jar:3.23.1-GA:compile
[INFO] | | +- antlr:antlr:jar:2.7.7:compile
[INFO] | | +- org.jboss:jandex:jar:2.0.5.Final:compile
[INFO] | | +- org.dom4j:dom4j:jar:2.1.1:compile
[INFO] | | \- org.hibernate.common:hibernate-commons-annotations:jar:5.0.4.Final:compile
[INFO] | \- org.springframework:spring-aspects:jar:5.1.3.RELEASE:compile
[INFO] \- org.springframework.data:spring-data-jpa:jar:2.1.3.RELEASE:compile
[INFO] +- org.springframework.data:spring-data-commons:jar:2.1.3.RELEASE:compile
[INFO] +- org.springframework:spring-orm:jar:5.1.3.RELEASE:compile
[INFO] +- org.springframework:spring-context:jar:5.1.3.RELEASE:compile
[INFO] +- org.springframework:spring-aop:jar:5.1.3.RELEASE:compile
[INFO] +- org.springframework:spring-tx:jar:5.1.3.RELEASE:compile
[INFO] +- org.springframework:spring-beans:jar:5.1.3.RELEASE:compile
[INFO] +- org.aspectj:aspectjrt:jar:1.9.2:compile
[INFO] \- org.slf4j:slf4j-api:jar:1.7.25:compile
```