EXUS

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

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 Intelij IDE (VCS+Maven)

Figure 1 *When InteliJ is executed, select to Checkout from Version Control/Git*
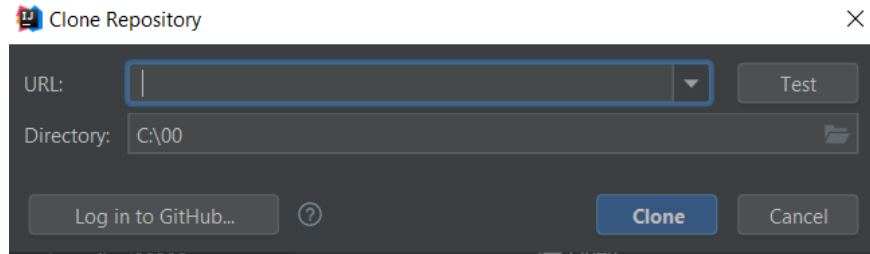
Figure 2 *Paste in the url option the GitHub's Repo Link-select directory of output folder-press clone*

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 PST 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.

- *The result code should be implemented in Java*

The result code is implemented in Java version 11.0.1.

- *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*: InteliJ 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
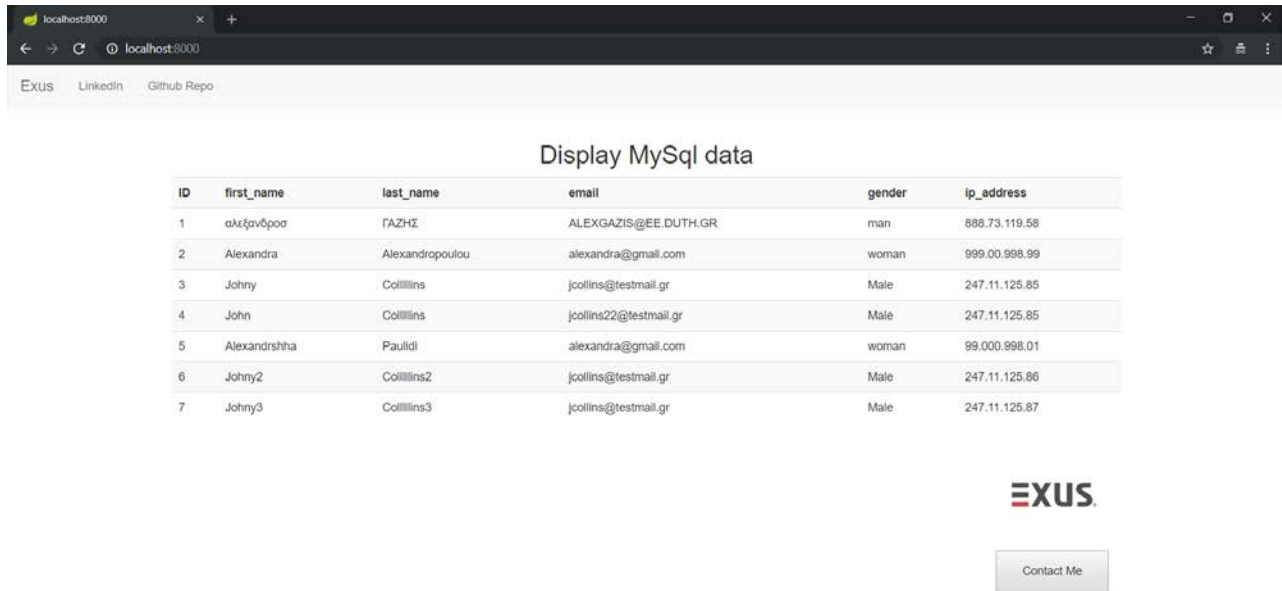
Figure 3 *Index Page of the web app displays all the table's records from the db*
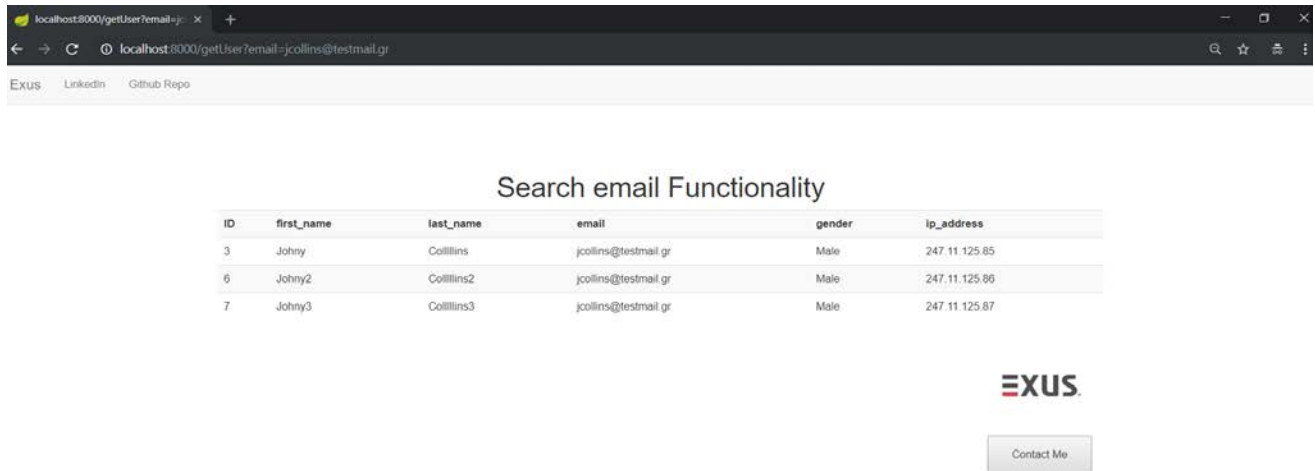
Figure 4 *Search via email page, regarding jcollins@testmail.gr (more than one users with this email address were deliberately added to the dB records)*
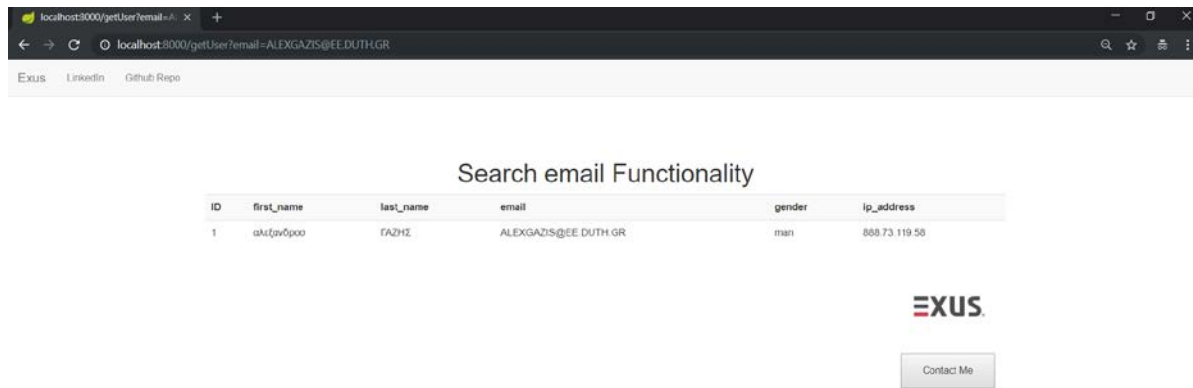
Figure 5 *Search via email page, regarding alexgazis@ee.duth.gr*
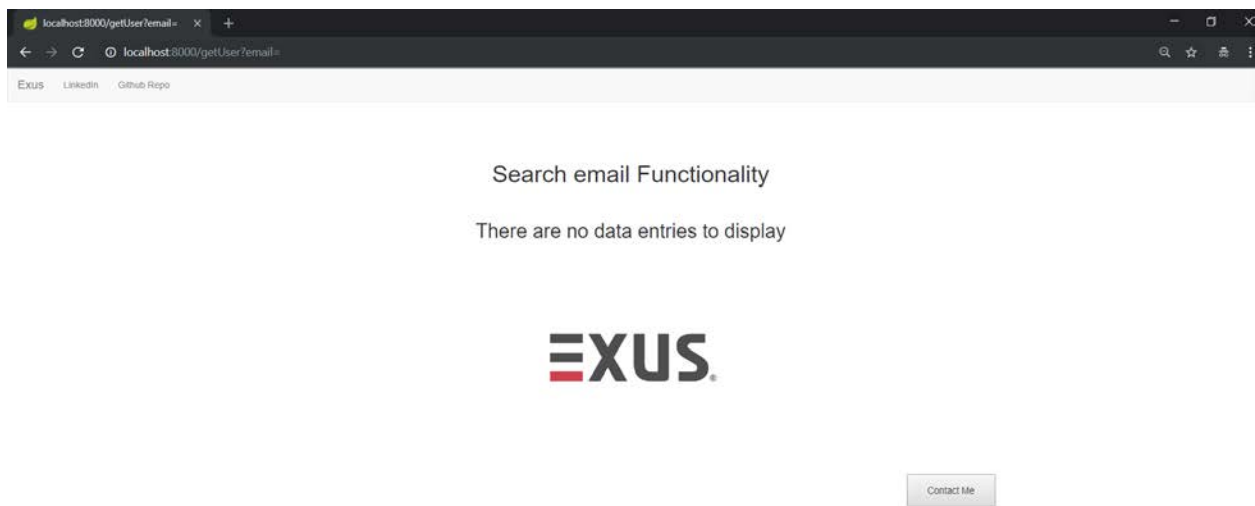
Figure 6 *Search via email page, for no user input*
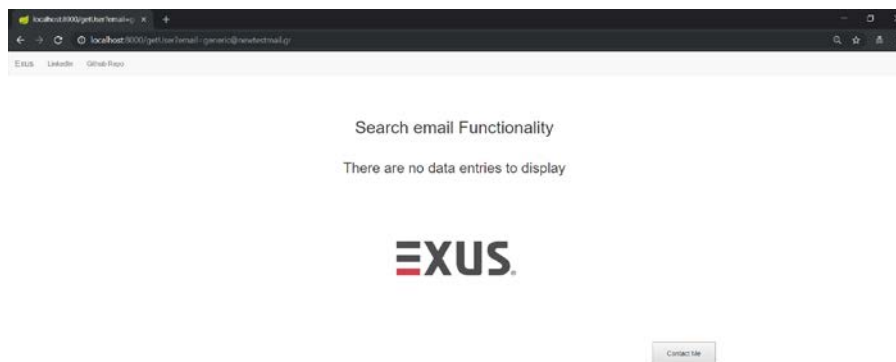
Figure 7 *Search via email regarding generic@newtestmail.gr (email address doesn't exist in the dB's records)*
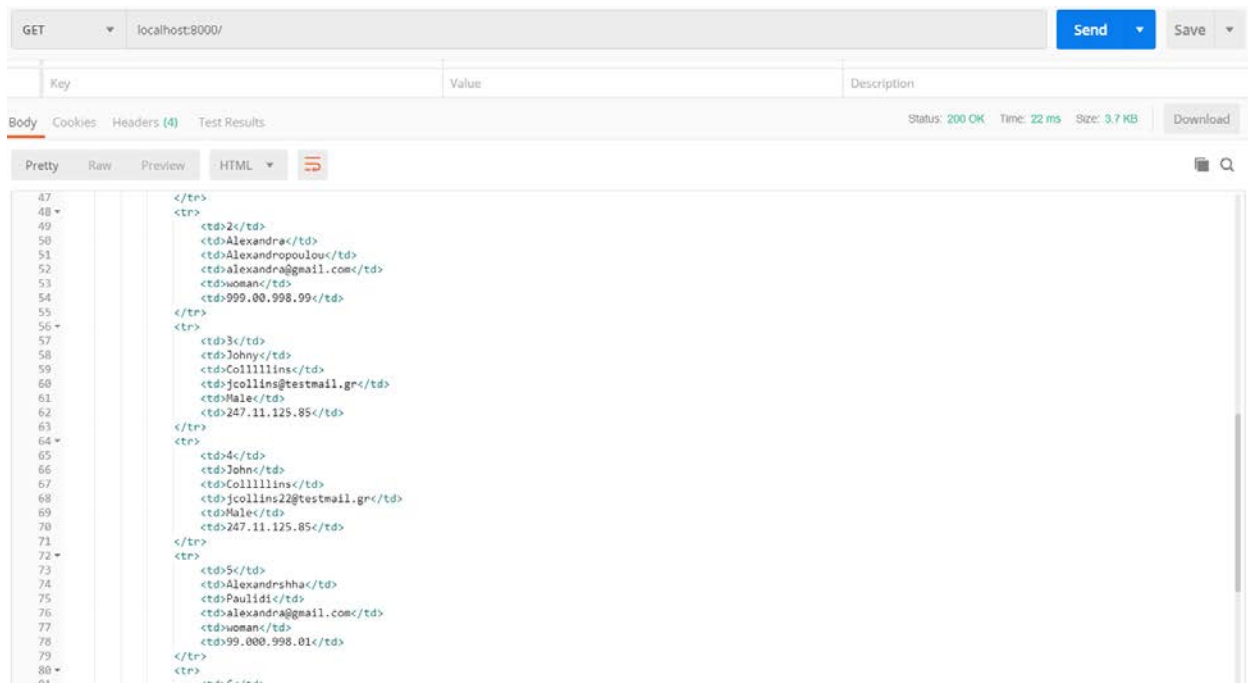
Figure 8 *Postman's application Get request regarding the Index Page of the web app*
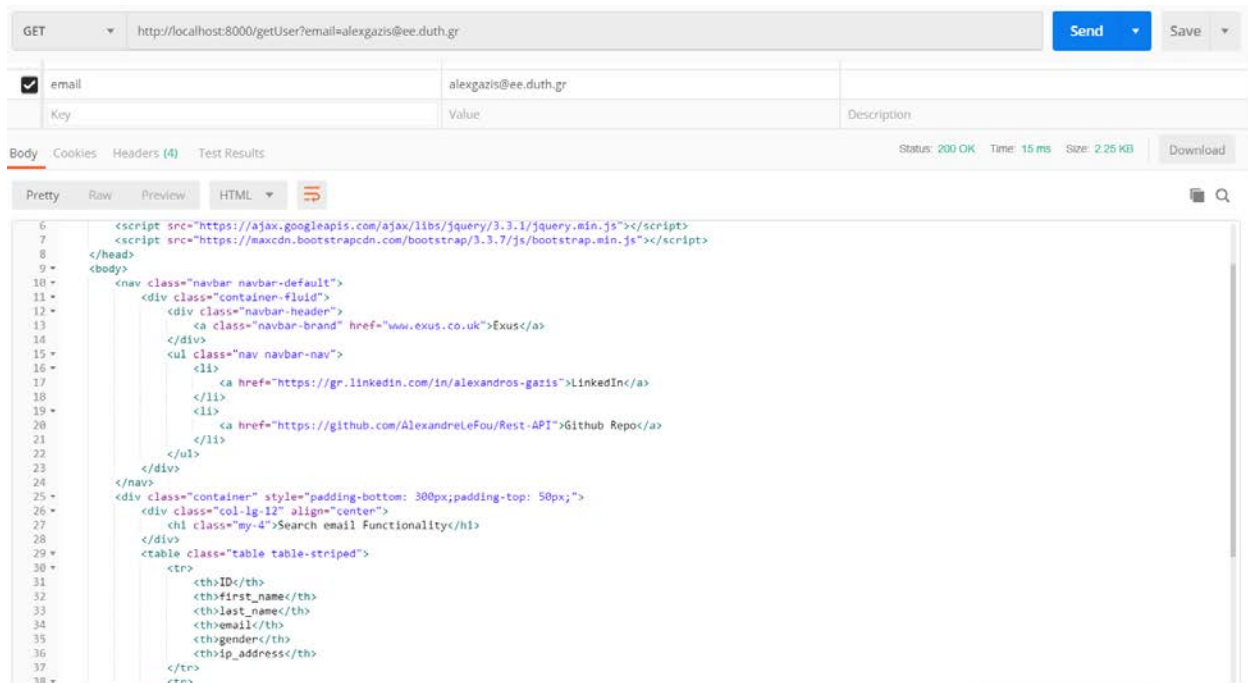
Figure 9 *Postman's application Get request regarding Search via email (alexgazis@ee.duth.gr)*
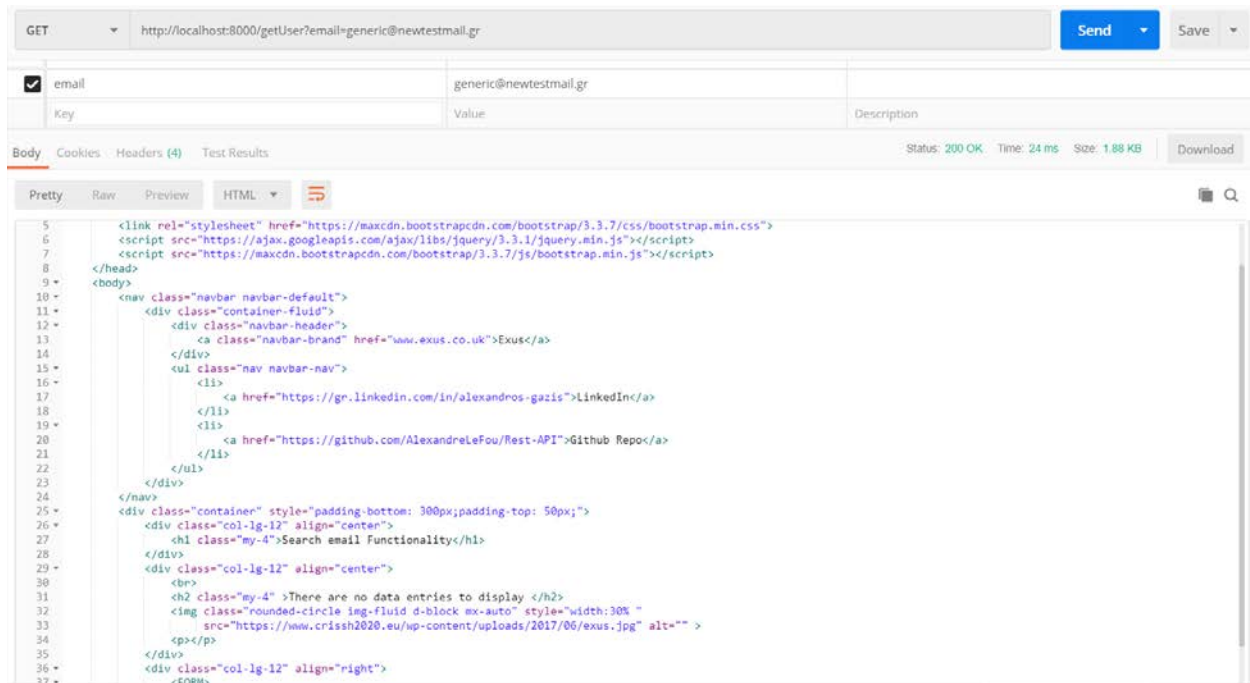
Figure 10 *Postman's application Get request regarding Search via email (generic@newtestmail.gr)*
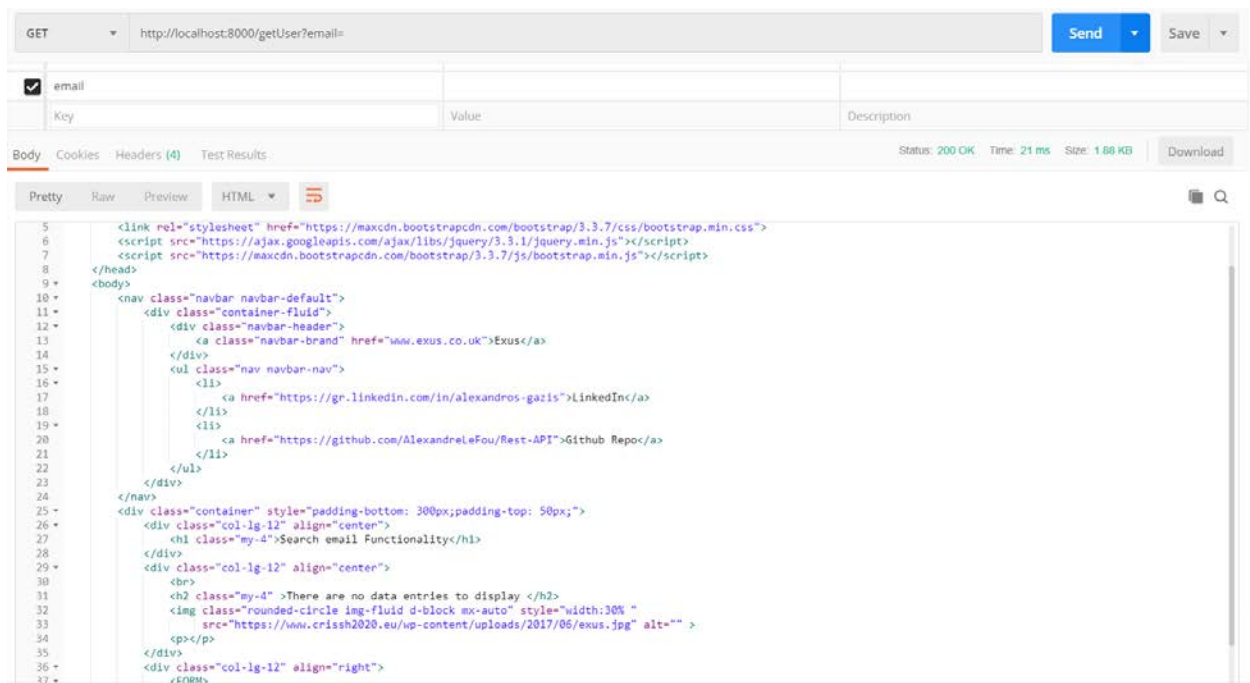
Figure 11 *Postman's application Get request regarding Search via email (no input)*

		id	first_name	last_name	email	gender	ip_address
A.	▶	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	Colllllins	jcollins@testmail.gr	Male	247.11.125.85
		4	John	Colllllins	jcollins22@testmail.gr	Male	247.11.125.85
		5	Alexandrshha	Paulidi	alexandra@gmail.com	woman	99.000.998.01
		6	Johny2	Colllllins2	jcollins@testmail.gr	Male	247.11.125.86
		7	Johny3	Colllllins3	jcollins@testmail.gr	Male	247.11.125.87

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

```
1  { "id": 8, "first_name": "John", "last_name": "Collins", "email": "jcollins@testmail.gr", "gender": "Male", "ip_address": "247.11.125.85" }
```

Body Cookies Headers (4) Test Results   Status: 200 OK Time: 167 ms Size: 3.93 KB   Download

Pretty Raw Preview   HTML ▼ ⇥

```
86              <td>247.11.125.86</td>
87          </tr>
88 ▼        <tr>
89              <td>7</td>
90              <td>Johny3</td>
91              <td>Colllllins3</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" }

		id	first_name	last_name	email	gender	ip_address
D.	▶	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	Colllllins	jcollins@testmail.gr	Male	247.11.125.85
		4	John	Colllllins	jcollins22@testmail.gr	Male	247.11.125.85
		5	Alexandrshha	Paulidi	alexandra@gmail.com	woman	99.000.998.01
		6	Johny2	Colllllins2	jcollins@testmail.gr	Male	247.11.125.86
		7	Johny3	Colllllins3	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.	

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

C.	

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] -------------------------< ExusApp: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
```