

## UserController.java

```
1  package nl.tudelft.sem.group21b.user.controllers;
2
3  import java.util.List;
4  import nl.tudelft.sem.group21b.user.entities.Notification;
5  import nl.tudelft.sem.group21b.user.entities.User;
6  import nl.tudelft.sem.group21b.user.repositories.NotificationRepository;
7  import nl.tudelft.sem.group21b.user.repositories.UserRepository;
8  import org.springframework.beans.factory.annotation.Autowired;
9  import org.springframework.web.bind.annotation.*;
10
11  @RestController
12  @RequestMapping("/user")
13  public class UserController {
14
15      @Autowired
16      private transient UserRepository userRepository;
17
18      /**
19       * Gets User by id.
20       *
21       * @param id the id of the user
22       * @return the user
23       */
24      @GetMapping("/getUser")
25      @ResponseBody
26      public User getUserById(@RequestParam long id) {
27          User user = userRepository.findById(id).orElse(null);
28
29          if (user == null || user.getClass() != User.class) {
30              return null;
31          }
32
33          return user;
34      }
35
36      /**
37       * Add User.
38       *
39       * @param name name of new user
40       * @param email email of new user
41       * @param password password of new user
42       * @return added user
43       */
44      @PostMapping("/addUser")
45      public User addUser(@RequestParam String name, @RequestParam String email, @RequestParam String password) {
46          List<User> users = userRepository.findByEmail(email);
47          if (users.size() > 0) {
48              return null;
49          }
50          User user = new User(name, email, password);
51          return userRepository.save(user);
52      }
53
54      /**
55       * Update User Info.
56       *
57       * @param id id of user to change
58       * @param name new name of new user
59       * @param email new email of new user
60       * @param password new password of new user
61       * @return changed user
62       */
63      @PostMapping("/updateUser")
64      public User updateUser(
65          @RequestParam Long id,
66          @RequestParam String name,
67          @RequestParam String email,
68          @RequestParam String password) {
69          User user = getUserById(id);
70          if (user == null) {
71              return null;
72          }
```

```

73     }
74     if (email.equals(user.getEmail())) {
75         user.setName(name);
76         user.setPassword(password);
77     } else {
78         List<User> users = userRepository.findByEmail(email);
79         if (!users.isEmpty()) {
80             return null;
81         } else {
82             user.setName(name);
83             user.setPassword(password);
84             user.setEmail(email);
85         }
86     }
87     userRepository.save(user);
88     return user;
89 }
90 }

```

## Mutations

- [29](#) 1. negated conditional → KILLED
- [29](#) 2. negated conditional → KILLED
- [33](#) 1. replaced return value with null for nl/tudelft/sem/group21b/user/controllers/UserController::getUserById → KILLED
- [47](#) 1. changed conditional boundary → KILLED
- [47](#) 2. negated conditional → KILLED
- [51](#) 1. replaced return value with null for nl/tudelft/sem/group21b/user/controllers/UserController::addUser → KILLED
- [71](#) 1. negated conditional → KILLED
- [74](#) 1. negated conditional → KILLED
- [75](#) 1. removed call to nl/tudelft/sem/group21b/user/entities/User::setName → KILLED
- [76](#) 1. removed call to nl/tudelft/sem/group21b/user/entities/User::setPassword → KILLED
- [79](#) 1. negated conditional → KILLED
- [82](#) 1. removed call to nl/tudelft/sem/group21b/user/entities/User::setName → KILLED
- [83](#) 1. removed call to nl/tudelft/sem/group21b/user/entities/User::setPassword → KILLED
- [84](#) 1. removed call to nl/tudelft/sem/group21b/user/entities/User::setEmail → KILLED
- [88](#) 1. replaced return value with null for nl/tudelft/sem/group21b/user/controllers/UserController::updateUser → KILLED

## Active mutators

- BOOLEAN\_FALSE\_RETURN
- BOOLEAN\_TRUE\_RETURN
- CONDITIONALS\_BOUNDARY\_MUTATOR
- EMPTY\_RETURN\_VALUES
- INCREMENTS\_MUTATOR
- INVERT\_NEGS\_MUTATOR
- MATH\_MUTATOR
- NEGATE\_CONDITIONALS\_MUTATOR
- NULL\_RETURN\_VALUES
- PRIMITIVE\_RETURN\_VALS\_MUTATOR
- VOID\_METHOD\_CALL\_MUTATOR

## Tests examined

- nl.tudelft.sem.group21b.user.controllers.UserControllerTest.[engine:junit-jupiter]/[class:nl.tudelft.sem.group21b.user.controllers.UserControllerTest]/[method:updateUserTestUserValid()] (39 ms)
- nl.tudelft.sem.group21b.user.controllers.UserControllerTest.[engine:junit-jupiter]/[class:nl.tudelft.sem.group21b.user.controllers.UserControllerTest]/[method:addUserTestEmailAlreadyUsed()] (32 ms)
- nl.tudelft.sem.group21b.user.controllers.UserControllerTest.[engine:junit-jupiter]/[class:nl.tudelft.sem.group21b.user.controllers.UserControllerTest]/[method:addUserTestValid()] (31 ms)
- nl.tudelft.sem.group21b.user.controllers.UserControllerTest.[engine:junit-jupiter]/[class:nl.tudelft.sem.group21b.user.controllers.UserControllerTest]/[method:getUserByIdExists()] (31 ms)
- nl.tudelft.sem.group21b.user.controllers.UserControllerTest.[engine:junit-jupiter]/[class:nl.tudelft.sem.group21b.user.controllers.UserControllerTest]/[method:updateUserTestUserValidSameEmail()] (15 ms)
- nl.tudelft.sem.group21b.user.controllers.UserControllerTest.[engine:junit-jupiter]/[class:nl.tudelft.sem.group21b.user.controllers.UserControllerTest]/[method:updateUserNotPresent()] (47 ms)
- nl.tudelft.sem.group21b.user.controllers.UserControllerTest.[engine:junit-jupiter]/[class:nl.tudelft.sem.group21b.user.controllers.UserControllerTest]/[method:updateUserTestUserInvalidNewEmail()] (31 ms)
- nl.tudelft.sem.group21b.user.controllers.UserControllerTest.[engine:junit-jupiter]/[class:nl.tudelft.sem.group21b.user.controllers.UserControllerTest]/[method:getUserByIdNotPresent()] (31 ms)
- nl.tudelft.sem.group21b.user.controllers.UserControllerTest.[engine:junit-jupiter]/[class:nl.tudelft.sem.group21b.user.controllers.UserControllerTest]/[method:updateUserTestUserValidNewEmail()] (32 ms)
- nl.tudelft.sem.group21b.user.controllers.UserControllerTest.[engine:junit-jupiter]/[class:nl.tudelft.sem.group21b.user.controllers.UserControllerTest]/[method:getUserByIdInvalid()] (16 ms)
- nl.tudelft.sem.group21b.controllerhelpers.APICallHelperTest.[engine:junit-jupiter]/[class:nl.tudelft.sem.group21b.controllerhelpers.APICallHelperTest]/[method:deleteTest()] (4190 ms)

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