Searching for a Specific User and Updating the User Information: Source Code

(Phase 3 - Practice Project 1)

Name: K V Sagar

Git Link : simpliLearn/Phase-3/10-ParcProj1-UserManager at main · K-V-Sagar/simpliLearn (github.com)

pom.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<project xmlns="http://maven.apache.org/POM/4.0.0"
	xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
	xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
https://maven.apache.org/xsd/maven-4.0.0.xsd">
	<modelVersion>4.0.0</modelVersion>
	<parent>
		<groupId>org.springframework.boot</groupId>
		<artifactId>spring-boot-starter-parent</artifactId>
		<version>2.4.3</version>
		<relativePath /> <!-- lookup parent from repository -->
	</parent>
	<groupId>com.example</groupId>
	<artifactId>UserManager</artifactId>
	<version>0.0.1-SNAPSHOT</version>
	<name>UserManager</name>
	<description>Searching for a Specific User and Updating the User
Information.</description>
	<properties>
		<java.version>1.8</java.version>
	</properties>
	<dependencies>
		<dependency>
			<groupId>org.springframework.boot</groupId>
			<artifactId>spring-boot-starter-data-jpa</artifactId>
		</dependency>
		<dependency>
			<groupId>org.springframework.boot</groupId>
			<artifactId>spring-boot-starter-web</artifactId>
		</dependency>

		<dependency>
			<groupId>mysql</groupId>
			<artifactId>mysql-connector-java</artifactId>
			<scope>runtime</scope>
```

```xml
        </dependency>
        <dependency>
            <groupId>org.projectlombok</groupId>
            <artifactId>lombok</artifactId>
            <optional>true</optional>
        </dependency>
        <dependency>
            <groupId>org.springframework.boot</groupId>
            <artifactId>spring-boot-starter-test</artifactId>
            <scope>test</scope>
        </dependency>

        <dependency>
            <groupId>javax.servlet</groupId>
            <artifactId>jstl</artifactId>
            <version>1.2</version>
        </dependency>

        <dependency>
            <groupId>org.apache.tomcat.embed</groupId>
            <artifactId>tomcat-embed-jasper</artifactId>
            <scope>provided</scope>
        </dependency>

        <dependency>
            <groupId>javax.xml.bind</groupId>
            <artifactId>jaxb-api</artifactId>
        </dependency>

        <dependency>
            <groupId>org.javassist</groupId>
            <artifactId>javassist</artifactId>
            <version>3.25.0-GA</version>
        </dependency>

        <dependency>
            <groupId>org.springframework.boot</groupId>
            <artifactId>spring-boot-devtools</artifactId>
            <scope>runtime</scope>
            <optional>true</optional>
        </dependency>
    </dependencies>

    <build>
        <plugins>
            <plugin>
                <groupId>org.springframework.boot</groupId>
                <artifactId>spring-boot-maven-plugin</artifactId>
                <configuration>
                    <excludes>
                        <exclude>
                            <groupId>org.projectlombok</groupId>
                            <artifactId>lombok</artifactId>
                        </exclude>
                    </excludes>
                </configuration>
            </plugin>
        </plugins>
    </build>
```

```
</project>
```

src/main/java/com/example/UserManager

UserManagerApplication.java

```java
package com.example.UserManager;


import org.springframework.boot.SpringApplication;

import org.springframework.boot.autoconfigure.SpringBootApplication;


@SpringBootApplication

public class UserManagerApplication {


	public static void main(String[] args) {

		SpringApplication.run(UserManagerApplication.class, args);

	}


}
```

src/main/java/com/example/UserManager/controller

AppErrorController.java

```java
package com.example.UserManager.controller;


import org.springframework.boot.web.servlet.error.ErrorController;

import org.springframework.web.bind.annotation.RequestMapping;


public class AppErrorController implements ErrorController {


	@RequestMapping("/error")

    public String handleError() {

        //do something like logging

        return "error";

    }
    @Override
    public String getErrorPath() {
        return null;
    }
}
```

MainController.java

```
package com.example.UserManager.controller;


import org.springframework.stereotype.Controller;
import org.springframework.ui.ModelMap;
import org.springframework.web.bind.annotation.GetMapping;
import org.springframework.web.bind.annotation.RequestParam;


@Controller
public class MainController {


      @GetMapping(value = "/")
      public String showIndexPage(ModelMap model,
                  @RequestParam(value = "name", required = false, defaultValue =
"user") String name) {
            model.addAttribute("name", name);
            return "index";
      }


}
```

UserController.java

```
package com.example.UserManager.controller;


import org.slf4j.Logger;
import org.slf4j.LoggerFactory;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Controller;
import org.springframework.ui.ModelMap;
import org.springframework.web.bind.annotation.GetMapping;
```

```java
import org.springframework.web.bind.annotation.ModelAttribute;
import org.springframework.web.bind.annotation.PostMapping;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RequestMethod;
import org.springframework.web.bind.annotation.RequestParam;

import com.example.UserManager.entities.User;
import com.example.UserManager.services.UserService;

@Controller
public class UserController {
//controls the functionality of the user entity

	@Autowired
	private UserService userService;

	Logger logger = LoggerFactory.getLogger(UserController.class);

	@GetMapping("/user")
	public String showUsers(ModelMap model) {
		logger.info("Getting all users");
		Iterable<User> users = userService.GetAllUsers();
		logger.info("Passing users to view");
		model.addAttribute("users", users );
		return "users";
	}

	@RequestMapping(value ="/search/{id}", method = RequestMethod.POST)
	public String searchUser(ModelMap model, @RequestParam("id") int id) {
		logger.info("Searching for a user");
		User user = userService.GetUserById(id);
		logger.info("Passing Searched User to View");
		model.addAttribute("userSearch", user);
		return "search";
	}


	@PostMapping("search/update")
	public String updateUser(ModelMap model, @ModelAttribute("update") User
user) {
		logger.info("Updating a User");
		userService.UpdateUser(user);
		model.addAttribute("updatedUser", user);
		return "update";
	}
}
```

UserExceptionController.java

```
package com.example.UserManager.controller;


import org.springframework.http.HttpStatus;
import org.springframework.http.ResponseEntity;
import org.springframework.web.bind.annotation.ControllerAdvice;
import org.springframework.web.bind.annotation.ExceptionHandler;


import com.example.UserManager.exceptions.UserNotFoundException;


@ControllerAdvice
public class UserExceptionController {


	@ExceptionHandler(value=UserNotFoundException.class)
	public ResponseEntity<Object> exception(UserNotFoundException ex) {
		return new ResponseEntity<>("Product not found",
HttpStatus.NOT_FOUND);
	}


}
```

src/main/java/com/example/UserManager/entities

User.java

```
package com.example.UserManager.entities;


import javax.persistence.Entity;

import javax.persistence.GeneratedValue;

import javax.persistence.GenerationType;

import javax.persistence.Id;



@Entity

public class User { //The Entity of a User; What it is.


	@Id

	@GeneratedValue(strategy=GenerationType.AUTO)

	private Integer id;


	private String name;


	private String email;


	private String password;


	public User() {

		super();

	}


	public User(Integer id, String name, String email, String password) {

		super();

		this.id = id;

		this.name = name;

		this.email = email;

		this.password = password;
	}

	public Integer getId() {
		return id;
	}

	public void setId(Integer id) {
		this.id = id;
	}

	public String getName() {
		return name;
	}

	public void setName(String name) {
		this.name = name;
	}

	public String getEmail() {
		return email;
	}

	public void setEmail(String email) {
		this.email = email;
	}

	public String getPassword() {
		return password;
	}

	public void setPassword(String password) {
		this.password = password;
	}
	@Override
	public String toString() {
		return (id.toString() + " " + name + " " + email + " " + password);
	}




}
```

src/main/java/com/example/UserManager/exceptions

UserNotFoundException.java

```
package com.example.UserManager.exceptions;

public class UserNotFoundException extends RuntimeException {

	private static final long  serialVersionUID = 1L;
```

src/main/java/com/example/UserManager/repositories

UserRepository.java

```
package com.example.UserManager.repositories;


import org.springframework.data.repository.CrudRepository;

import org.springframework.stereotype.Repository;


import com.example.UserManager.entities.User;


@Repository

public interface UserRepository extends CrudRepository<User, Integer> {


	public User findByName(String name);

}
```

src/main/java/com/example/UserManager/services

UserService.java

```
package com.example.UserManager.services;



import java.util.Optional;


import org.springframework.beans.factory.annotation.Autowired;

import org.springframework.stereotype.Service;


import com.example.UserManager.entities.User;

import com.example.UserManager.exceptions.UserNotFoundException;

import com.example.UserManager.repositories.UserRepository;


@Service

public class UserService {


	@Autowired

	private UserRepository userRepository;


	public Iterable<User> GetAllUsers() {

		return userRepository.findAll();

	}


	public User GetUserByName(String name) {

		return userRepository.findByName(name);


	}
```

```java
	public User GetUserById(Integer id) {

		Optional<User> foundUser = userRepository.findById(id);

		if(!foundUser.isPresent()) throw new UserNotFoundException();

		return foundUser.get();

	}


	public User UpdateUser(User userToUpdate) {

		return userRepository.save(userToUpdate);

	}

}
```

src/main/resources

application.properties

```
spring.jpa.hibernate.ddl-auto=update
spring.datasource.url=jdbc:mysql://${MYSQL_HOST:localhost}:3306/mydb
spring.datasource.username=root
spring.datasource.password=admin

logging.level.org.springframework.web: DEBUG
spring.mvc.view.prefix=/WEB-INF/jsp/
spring.mvc.view.suffix=.jsp
server.port=8090
```

src/main/webapp/WEB-INF/jsp

error.jsp

```html
<!DOCTYPE html>
<html>
<body>
<h1>Oops something went wrong! </h1>
<h2>Please click the below link to return to the home page</h2>
<a href="/">Go back to home</a>
</body>
</html>
```

index.jsp

```html
<html>
<body>
```

```
<h1>Searching for a Specific User and Updating the User Information</h1>

<h2 class="hello-title">Welcome ${name}!</h2>

<a href="users">Click here to view  the list of Users</a><br/><br/><br/><br/>
<form action="search/{id}" method="post">
Enter the User ID: <input name="id" type="text" id="id" required/>
<input name="Submit" type="submit"/>
</form>



</body>
</html>
```

search.jsp

```
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<%@ taglib prefix="form" uri="http://www.springframework.org/tags/form"%>
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
    "http://www.w3.org/TR/html4/loose.dtd">

<html>
<style>
table {
	float: left;
}

th {
	border-bottom: 1px solid black;
	text-align: left;
}
</style>
<body>

	<h2>Search Result</h2>

	<table>
		<tr>
			<th>ID</th>
			<th>Name</th>
			<th>Email</th>
			<th>Password</th>
		</tr>
		<tr>
			<td>${userSearch.id}</td>
			<td>${userSearch.name}</td>
			<td>${userSearch.email}</td>
			<td>${userSearch.password}</td>
		</tr>
	</table>

	<br />
	<br />
	<br />
	<br />
	<br />
	<br />
	<form:form action="update" method="post" commandName="update">
		<h3>Update Menu</h3><br/>
			<p>User ID: ${userSearch.id}</p>
			<input type="hidden" name="id" id="id" 
value="${userSearch.id}" required/>
			<label for="name">New Name:</label><br/>
			<input type="text" name="name" id="name" 
value="${userSearch.name}" required/><br/>
			<label for="email">New Email:</label> <br/>
			<input type="text" name="email" id="email" 
value="${userSearch.email}" required/><br/>
			<label for="password">New Password:</label><br/>
			<input type="text" name="password" id="password" 
value="${userSearch.password}" required/><br/><br/>
			<input type="submit" value="Submit"/>
	</form:form>
	<br />
	<br />
	<a href="/">Return to Main Menu</a>
</body>
</html>
```

update.jsp

```
<html>
<body>
<h2>Update Successful</h2>
Updated User Credentials: ${updatedUser.toString()}
<br/><br/>
<a href="/">Go back to Main Menu</a>
</body>
</html>
```

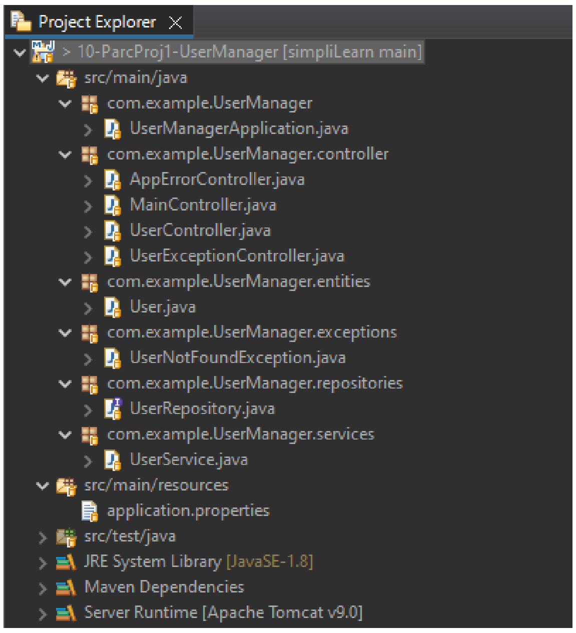
users.jsp

```
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c"%>
<html>
<style>
table {
	float: left;
}

table, th, td {
	border: 1px solid black;
}
</style>
<head></head>
<body>
	<h2>List of Users</h2>
	<table>
		<tr>
			<th>ID</th>
			<th>Name</th>
			<th>Email</th>
			<th>Password</th>
		</tr>
		<c:forEach items="${users}" var="user" varStatus="count">
			<tr id="${count.index}">
```

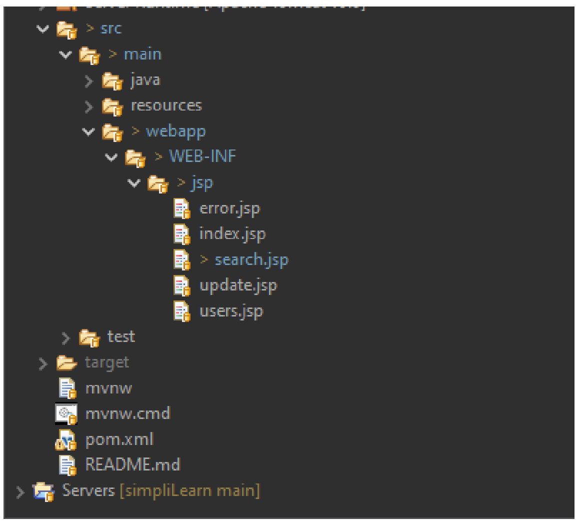
```
                    <td>${user.id}</td>
                    <td>${user.name}</td>
                    <td>${user.email}</td>
                    <td>${user.password}</td>
                </tr>
            </c:forEach>
        </table>
</body>
</html>
```

File Structure



```
Project Explorer
v > 10-ParcProj1-UserManager [simpliLearn main]
  v src/main/java
    v com.example.UserManager
      > UserManagerApplication.java
    v com.example.UserManager.controller
      > AppErrorController.java
      > MainController.java
      > UserController.java
      > UserExceptionController.java
    v com.example.UserManager.entities
      > User.java
    v com.example.UserManager.exceptions
      > UserNotFoundException.java
    v com.example.UserManager.repositories
      > UserRepository.java
    v com.example.UserManager.services
      > UserService.java
  v src/main/resources
      application.properties
  > src/test/java
  > JRE System Library [JavaSE-1.8]
  > Maven Dependencies
  > Server Runtime [Apache Tomcat v9.0]
```

(1)



```
  v > src
    v > main
      > java
      > resources
      v > webapp
        v > WEB-INF
          v > jsp
              error.jsp
              index.jsp
              > search.jsp
              update.jsp
              users.jsp
    > test
  > target
    mvnw
    mvnw.cmd
    pom.xml
    README.md
> Servers [simpliLearn main]
```

(2)