**Phase3**

**Lesson-1**

**Searching for a Specific User and Updating the User Information.**

DESCRIPTION

**Project objective:**

Create a Spring MVC web application that will retrieve users based on their user ID. The retrieved user data will then be edited in a form and updated in the database. The entire database processing has to be done using Hibernate. Front pages will be made in JSP.

**Background of the problem statement:**

As a part of developing an ecommerce web application, the admin backend requires a module that can retrieve users based on their user ID and update their information as required.

**Code:**

**Package name = com.userdata**

**Class name = UserDataApplication**

package com.userdata;

import org.springframework.boot.SpringApplication;

import org.springframework.boot.autoconfigure.SpringBootApplication;

@SpringBootApplication

public class UserdataApplication {

public static void main(String[] args) {

SpringApplication.run(UserdataApplication.class, args);

}

}

**Package name= com.userdata.entities**

**Class name= User**

**package** com.userdata.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);

}

}

**Package name= com.userdata.repository**

**Interface name= UserRepository**

package com.userdata.repositories;

import org.springframework.data.repository.CrudRepository;

import org.springframework.stereotype.Repository;

import com.userdata.entities.User;

@Repository

public interface UserRepository extends CrudRepository<User, Integer> {

public User findByName(String name);

}

**Package name= com.userdata.service**

**Interface name= UserService**

package com.userdata.services;

import java.util.Optional;

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

import org.springframework.stereotype.Service;

import com.userdata.entities.User;

import com.userdata.exceptions.UserNotFoundException;

import com.userdata.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);

}

public User GetUserById(Integer id) {

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

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

return foundUser.get();

}

public User adddata(User addUser) {

return userRepository.save(addUser);

}

public User UpdateUser(User userToUpdate) {

return userRepository.save(userToUpdate);

}

}

**Package name= com.userdata.exceptions**

**Class name= UserNotFoundExceptions**

**package** com.userdata.exceptions;

**public** **class** UserNotFoundException **extends** RuntimeException {

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

}

**Package name= com.userdata.controller**

**Class name= Maincontroller**

package com.userdata.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 = "World") String name) {

model.addAttribute("name", name);

return "index";

}

}

**Package name= com.userdata.controller**

**Class name= Usercontroller**

package com.userdata.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;

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.userdata.entities.User;

import com.userdata.services.UserService;

@Controller

public class UserController {

//controls the functionality of the user entity

@Autowired

private UserService userService;

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

@GetMapping("/users")

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";

}

}

**Package name= com.userdata.controller**

**Class name= AppErrorcontroller**

package com.userdata.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;

}

}

**Package name= com.userdata.controller**

**Class name= UserExceptioncontroller**

package com.userdata.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.userdata.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);

}

}

**Jsp code:**

**Index.jsp**

<html>

<body>

<h1>Welcome! </h1>

<h2>Web Application to read user data</h2>

<h2 class=*"hello-title"*>Hello ${name}!</h2><br>

<a href=*"users"*>Read users</a><br>

<form action=*"search/{id}"* method=*"post"*><br>

Enter Id: <input name=*"id"* type=*"text"* id=*"id"* placeholder=*"1"* required/><br>

<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 user data</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 user information</h3>

<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=*"/"*>Home</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>Users page</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>

<br/>

<br/>

<a href=*"/"*>Home</a>

</body>

</html>

**update.jsp**

<html>

<body>

<h2>Update successful</h2>

Updated user data: ${updatedUser.toString()}

<br/><br/>

<a href=*"/"*>Home</a>

</body>

</html>

**error.jsp**

<!DOCTYPE html>

<html>

<body>

<h1>Something went wrong! </h1>

<h2>Our Engineers are on it</h2>

<a href=*"/"*>Go Home</a>

</body>

</html>