

code

UserManagerApplication.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);

    }

}
```

AppErrorController.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 = "World") 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;

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("/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";
    }
}

```

UserExceptionHandler.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 UserExceptionHandler {

    @ExceptionHandler(value=UserNotFoundException.class)

    public ResponseEntity<Object> exception(UserNotFoundException ex) {

        return new ResponseEntity<>("Product not found", HttpStatus.NOT_FOUND);

    }

}

```

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);
    }

}

```

UserNotFoundException.java

```

package com.example.UserManager.exceptions;

public class UserNotFoundException extends RuntimeException {
    private static final long serialVersionUID = 1L;
}

```

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);

}
```

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);

    }

    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);

    }

}

```

application.properties

```

spring.jpa.hibernate.ddl-auto=update
spring.datasource.url=jdbc:mysql://localhost:3306/mywork
spring.datasource.username=root
spring.datasource.password=nareshrao
logging.level.org.springframework.web: DEBUG
spring.mvc.view.prefix=/WEB-INF/jsp/
spring.mvc.view.suffix=.jsp

```

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>

```

index.jsp

```

<html>
<body>
<h2>Spring Application</h2>

<h2 class="hello-title">Hello ${name}!</h2>
<a href="/users">List Users</a>
<form action="/search/{id}" method="post">
Enter ID Number: <input name="id" type="text" id="id" placeholder="1" 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 for User</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 This User?</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="/">Return to Menu</a>
    </body>
</html>

```

update.jsp

```

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

```

SQL

```
CREATE DATABASE mywork;

USE mywork;

CREATE TABLE user (

    id INT AUTO_INCREMENT PRIMARY KEY,

    name VARCHAR(255) NOT NULL,

    email VARCHAR(255) NOT NULL,

    password VARCHAR(255) NOT NULL

);

INSERT INTO user (name, email, password) VALUES

    (naresh, 'naresh@gmail.com', '123'),

    ('rao', 'rao@gmail.com', '456');
```