**User.java**

**package** com.simplilearn.demo;

**public** **class** User {

**private** String name;

**private** String password;

**private** String role;

**public** User(String name, String password, String role) {

**this**.name = name;

**this**.password = password;

**this**.role = role;

}

**public** String getName() {

**return** name;

}

**public** **void** setName(String name) {

**this**.name = name;

}

**public** String getPassword() {

**return** password;

}

**public** **void** setPassword(String password) {

**this**.password = password;

}

**public** String getRole() {

**return** role;

}

**public** **void** setRole(String role) {

**this**.role = role;

}

}

**SpringSecurityConfig.java**

package com.simplilearn.demo;

import org.springframework.context.annotation.ComponentScan;

import org.springframework.context.annotation.Configuration;

import org.springframework.security.config.annotation.authentication.builders.AuthenticationManagerBuilder;

import org.springframework.security.config.annotation.web.builders.HttpSecurity;

import org.springframework.security.config.annotation.web.configuration.EnableWebSecurity;

import org.springframework.security.config.annotation.web.configuration.WebSecurityConfigurerAdapter;

@Configuration

@EnableWebSecurity

@ComponentScan("com.simplilearn.demo")

public class SpringSecurityConfig extends WebSecurityConfigurerAdapter {

// Protecting the urls with a role-based access.

@Override

protected void configure(HttpSecurity http) throws Exception {

http.httpBasic().and().authorizeRequests()

.antMatchers("/").permitAll()

.antMatchers("/protected").hasRole("USER")

.antMatchers("/admin").hasRole("ADMIN");

}

@Override

protected void configure(AuthenticationManagerBuilder auth) throws Exception {

auth.authenticationProvider(new CustomAuthenticationProvider());

}

}

**CustomAuthenticationProvider.Java**

package com.simplilearn.demo;

import org.springframework.security.authentication.\*;

import org.springframework.security.core.\*;

import org.springframework.security.core.authority.SimpleGrantedAuthority;

import java.util.ArrayList;

import java.util.List;

import java.util.Optional;

public class CustomAuthenticationProvider implements AuthenticationProvider {

List<User> dummyUsers = new ArrayList<>();

public CustomAuthenticationProvider() {

dummyUsers.add(new User("Nivetha", "Nivesha", "ROLE\_USER"));

dummyUsers.add(new User("admin", "adminpass", "ROLE\_ADMIN"));

}

@Override

public Authentication authenticate(Authentication authentication) throws AuthenticationException {

String name = authentication.getName();

String password = authentication.getCredentials().toString();

//jdk 8 -- stream

Optional<User> authenticatedUser = dummyUsers.stream().filter(

user -> user.getName().equals(name) && user.getPassword().equals(password)

).findFirst();

if(!authenticatedUser.isPresent()){

throw new BadCredentialsException("Invalid Username");

}

List<GrantedAuthority> authorities = new ArrayList<>();

authorities.add(new SimpleGrantedAuthority(authenticatedUser.get().getRole()));

Authentication auth = new UsernamePasswordAuthenticationToken(name, password, authorities);

return auth;

}

@Override

public boolean supports(Class<?> aClass) {

return aClass.equals(UsernamePasswordAuthenticationToken.class);

}

}

**MainController.java**

package com.simplilearn.demo;

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

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

@RestController

public class MainController {

@RequestMapping("/")

public String hello(){

return "HII.. WELCOME TO THE QUIZ PAGE";

}

@RequestMapping("/protected")

public String protectedHello(){

return "Hey, Welcome NIVETHA KAMAL.. Are You Ready for the Quiz Competition ";

}

@RequestMapping("/admin")

public String admin(){

return "Hii.. You Can Add, Delete or Edit the Quiz Details";

}

}

**QuizPortalApplication.java**

package com.simplilearn.demo;

import org.springframework.boot.SpringApplication;

import org.springframework.boot.autoconfigure.SpringBootApplication;

@SpringBootApplication

public class QuizPortalApplication {

public static void main(String[] args) {

SpringApplication.run(QuizPortalApplication.class, args);

}

}

**QUESTIONS.JAVA**

package com.simplilearn.demo;

import javax.persistence.Column;

import javax.persistence.Entity;

import javax.persistence.GeneratedValue;

import javax.persistence.GenerationType;

import javax.persistence.Id;

@Entity

public class Questions {

@Id

@Column(name="id")

@GeneratedValue(strategy = GenerationType.IDENTITY)

private int id;

private String question;

public String getQuestion() {

return question;

}

public void setQuestion(String question) {

this.question = question;

}

private String OptionA;

private String OptionB;

private String OptionC;

private String OptionD;

private String Answer;

public int getId() {

return id;

}

public void setId(int id) {

this.id = id;

}

public String getOptionA() {

return OptionA;

}

public void setOptionA(String optionA) {

OptionA = optionA;

}

public String getOptionB() {

return OptionB;

}

public void setOptionB(String optionB) {

OptionB = optionB;

}

public String getOptionC() {

return OptionC;

}

public void setOptionC(String optionC) {

OptionC = optionC;

}

public String getOptionD() {

return OptionD;

}

public void setOptionD(String optionD) {

OptionD = optionD;

}

public String getAnswer() {

return Answer;

}

public void setAnswer(String answer) {

Answer = answer;

}

public Questions(int id, String question, String optionA, String optionB, String optionC, String optionD,

String answer) {

this.id = id;

this.question = question;

OptionA = optionA;

OptionB = optionB;

OptionC = optionC;

OptionD = optionD;

Answer = answer;

}

public Questions() {

// TODO Auto-generated constructor stub

}

}

**QuestionRepo.java**

package com.simplilearn.demo;

import org.springframework.data.jpa.repository.JpaRepository;

import org.springframework.stereotype.Repository;

@Repository

public interface QuestionRepo extends JpaRepository<Questions, Integer> {

}

**QuestionService.java**

package com.simplilearn.demo;

import java.util.List;

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

import org.springframework.stereotype.Service;

@Service

public class QuestionService {

@Autowired

private QuestionRepo repo;

//add method or CREATE RECORD

public Questions addUser(Questions u) {

return repo.save(u);

}

//List user Method

public List<Questions> getAllUser(){

return repo.findAll();

}

//get user by id

public Questions getUserById(int id) {

if(repo.findById(id).isPresent())

return repo.findById(id).get();

else

return null;

}

//update user by id

public Questions updateUser(Questions user, int id) {

if(repo.findById(id).isPresent())

{

Questions old= repo.findById(id).get();

old.setOptionA(user.getOptionA());

old.setOptionB(user.getOptionB());

old.setOptionC(user.getOptionC());

old.setOptionD(user.getOptionD());

old.setAnswer(user.getAnswer());

return repo.save(old);

}

else{

return null;

}

}

///DELETE USER BY ID

public boolean deleteUser(int id) {

if(repo.findById(id).isPresent()){

repo.deleteById(id);

return true;}

else

return false;

}

}

**QuestionController.java**

**package** com.simplilearn.demo;

**import** java.util.List;

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

**import** org.springframework.stereotype.Service;

@Service

**public** **class** QuestionService {

@Autowired

**private** QuestionRepo repo;

//add method or CREATE RECORD

**public** Questions addUser(Questions u) {

**return** repo.save(u);

}

//List user Method

**public** List<Questions> getAllUser(){

**return** repo.findAll();

}

//get user by id

**public** Questions getUserById(**int** id) {

**if**(repo.findById(id).isPresent())

**return** repo.findById(id).get();

**else**

**return** **null**;

}

//update user by id

**public** Questions updateUser(Questions user, **int** id) {

**if**(repo.findById(id).isPresent())

{

Questions old= repo.findById(id).get();

old.setOptionA(user.getOptionA());

old.setOptionB(user.getOptionB());

old.setOptionC(user.getOptionC());

old.setOptionD(user.getOptionD());

old.setAnswer(user.getAnswer());

**return** repo.save(old);

}

**else**{

**return** **null**;

}

}

///DELETE USER BY ID

**public** **boolean** deleteUser(**int** id) {

**if**(repo.findById(id).isPresent())

{

repo.deleteById(id);

**return** **true**;

}

**else**

**return** **false**;

}

}

**QuizCompetition.java**

package com.simplilearn.demo;

import javax.persistence.Column;

import javax.persistence.Entity;

import javax.persistence.GeneratedValue;

import javax.persistence.GenerationType;

import javax.persistence.Id;

@Entity

public class QuizCompetition {

@Id

@Column(name="id")

@GeneratedValue(strategy = GenerationType.IDENTITY)

private int id;

private int quizId;

private int questionId;

public int getId() {

return id;

}

public void setId(int id) {

this.id = id;

}

public int getQuizId() {

return quizId;

}

public void setQuizId(int quizId) {

this.quizId = quizId;

}

public int getQuestionId() {

return questionId;

}

public void setQuestionId(int questionId) {

this.questionId = questionId;

}

public QuizCompetition(int id, int quizId, int questionId) {

super();

this.id = id;

this.quizId = quizId;

this.questionId = questionId;

}

public QuizCompetition() {

// TODO Auto-generated constructor stub

}

}

**QuizRepo.java**

package com.simplilearn.demo;

import org.springframework.data.jpa.repository.JpaRepository;

import org.springframework.stereotype.Repository;

@Repository

public interface QuizRepo extends JpaRepository<QuizCompetition, Integer> {

}

**QuizService.java**

package com.simplilearn.demo;

import java.util.List

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

import org.springframework.stereotype.Service;

@Service

public class QuizService {

@Autowired

private QuizRepo repo;

//add method or CREATE RECORD

public QuizCompetition addUser(QuizCompetition u) {

return repo.save(u);

}

//List user Method

public List<QuizCompetition> getAllUser(){

return repo.findAll();

}

}

**QuizController.java**

package com.simplilearn.demo;

import java.util.List;

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

import org.springframework.http.HttpStatus;

import org.springframework.http.ResponseEntity;

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

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

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

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

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

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

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

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

@RestController

@RequestMapping("/api/quiz")

public class QuizController {

@Autowired

private QuizService service;

//create new record

@PostMapping("/")

public ResponseEntity<QuizCompetition> addUser(@RequestBody QuizCompetition u){

QuizCompetition user= service.addUser(u);

if(user!=null)

return new ResponseEntity<QuizCompetition>(user,HttpStatus.CREATED);

else

return new ResponseEntity<QuizCompetition>(user, HttpStatus.INTERNAL\_SERVER\_ERROR);

}

//List of Users Or RETRIVE DATA

@GetMapping("/")

public List<QuizCompetition> getAllUser(){

return service.getAllUser();

}

}

**UserAnswer.java**

package com.simplilearn.demo;

import javax.persistence.Column;

import javax.persistence.Entity;

import javax.persistence.ForeignKey;

import javax.persistence.GeneratedValue;

import javax.persistence.GenerationType;

import javax.persistence.Id;

@Entity

//@Data

public class UserAnswer {

//@Table(name = "users", uniqueConstraints = {@UniqueConstraint(columnNames = {"username"})})

@Id

@Column(name="id")

@GeneratedValue(strategy = GenerationType.IDENTITY)

private int id;

private int quizid;

private String questionid;

private String useranswer;

public int getId() {

return id;

}

public void setId(int id) {

this.id = id;

}

public int getQuizid() {

return quizid;

}

public void setQuizid(int quizid) {

this.quizid = quizid;

}

public String getQuestionid() {

return questionid;

}

public void setQuestionid(String questionid) {

this.questionid = questionid;

}

public String getUseranswer() {

return useranswer;

}

public void setUseranswer(String useranswer) {

this.useranswer = useranswer;

}

public UserAnswer(int id, int quizid, String questionid, String useranswer) {

super();

this.id = id;

this.quizid = quizid;

this.questionid = questionid;

this.useranswer = useranswer;

}

public UserAnswer() {

// TODO Auto-generated constructor stub

}

}

**UserAnswerRepo.java**

package com.simplilearn.demo;

import org.springframework.data.jpa.repository.JpaRepository;

import org.springframework.stereotype.Repository;

@Repository

public interface UserAnswerRepo extends JpaRepository<UserAnswer, Integer> {

}

**UserAnswerService.java**

package com.simplilearn.demo;

import java.util.List;

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

import org.springframework.stereotype.Service;

@Service

public class UserAnswerService {

@Autowired

private UserAnswerRepo repo;

//add method or CREATE RECORD

public UserAnswer addUser(UserAnswer u) {

return repo.save(u);

}

//List user Method

public List<UserAnswer> getAllUser(){

return repo.findAll();

}}

**UserAnswerController.java**

package com.simplilearn.demo;

import java.util.List;

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

import org.springframework.http.HttpStatus;

import org.springframework.http.ResponseEntity;

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

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

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

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

import org.springframework.web.bind.annotation.RestController

@RestController

@RequestMapping("/api/useranswer")

public class UserAnswerController {

@Autowired

private UserAnswerService service;

//create new record

@PostMapping("/")

public ResponseEntity<UserAnswer> addUser(@RequestBody UserAnswer u){

UserAnswer user= service.addUser(u);

if(user!=null)

return new ResponseEntity<UserAnswer>(user,HttpStatus.CREATED);

else

return new ResponseEntity<UserAnswer>(user, HttpStatus.INTERNAL\_SERVER\_ERROR);

}

//List Or RETRIVE DATA

@GetMapping("/")

public List<UserAnswer> getAllUser(){

return service.getAllUser();

}

}

**UserQuizStoreResponse.java**

package com.simplilearn.demo;

import javax.persistence.Column;

import javax.persistence.Entity;

import javax.persistence.GeneratedValue;

import javax.persistence.GenerationType;

import javax.persistence.Id;

@Entity

public class UserQuizStoreResponse {

@Id

@Column(name="id")

@GeneratedValue(strategy = GenerationType.IDENTITY)

private int id;

private String response;

public int getId() {

return id;

}

public void setId(int id) {

this.id = id;

}

public String getResponse() {

return response;

}

public void setResponse(String response) {

this.response = response;

}

public UserQuizStoreResponse(int id, String response) {

super();

this.id = id;

this.response = response;

}

public UserQuizStoreResponse() {

// TODO Auto-generated constructor stub

}

}

**UserQuizStoreResponseRepo.java**

package com.simplilearn.demo;

import org.springframework.data.jpa.repository.JpaRepository;

import org.springframework.stereotype.Repository;

@Repository

public interface UserQuizStoreResponseRepo extends JpaRepository<UserQuizStoreResponse, Integer> {

}

**UserQuizStoreResponseService.java**

package com.simplilearn.demo;

import java.util.List;

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

import org.springframework.stereotype.Service;

@Service

public class UserQuizStoreResponseService {

@Autowired

private UserQuizStoreResponseRepo repo;

//add method or CREATE RECORD

public UserQuizStoreResponse addUser(UserQuizStoreResponse u) {

return repo.save(u);

}

//List user Method

public List<UserQuizStoreResponse> getAllUser(){

return repo.findAll();

}

}

**UserQuizStoreResponseController.java**

package com.simplilearn.demo

import java.util.List;

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

import org.springframework.http.HttpStatus;

import org.springframework.http.ResponseEntity;

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

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

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

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

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

@RestController

@RequestMapping("/api/userquizstoreresponse")

public class UserQuizStoreResponseController {

@Autowired

private UserQuizStoreResponseService service;

///create new record

@PostMapping("/")

public ResponseEntity<UserQuizStoreResponse> addUser(@RequestBody UserQuizStoreResponse u){

UserQuizStoreResponse user= service.addUser(u);

if(user!=null)

return new ResponseEntity<UserQuizStoreResponse>(user,HttpStatus.CREATED);

else

return new ResponseEntity<UserQuizStoreResponse>(user, HttpStatus.INTERNAL\_SERVER\_ERROR);

}

//List of Users Or RETRIVE DATA

@GetMapping("/")

public List<UserQuizStoreResponse> getAllUser(){

return service.getAllUser();

}

}

UserRegister:

**package** com.simplilearn.demo;

**import** javax.persistence.Column;

**import** javax.persistence.Entity;

**import** javax.persistence.GeneratedValue;

**import** javax.persistence.GenerationType;

**import** javax.persistence.Id;

@Entity

**public** **class** UserRegister

{

@Id

@Column(name="id")

@GeneratedValue(strategy = GenerationType.***IDENTITY***)

**private** **int** id;

**public** **int** getId() {

**return** id;

}

**public** **void** setId(**int** id) {

**this**.id = id;

}

**private** String name;

**private** String email;

**private** String password;

**private** String country;

**private** **long** phoneno;

**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;

}

**public** String getCountry() {

**return** country;

}

**public** **void** setCountry(String country) {

**this**.country = country;

}

**public** **long** getPhoneno() {

**return** phoneno;

}

**public** **void** setPhoneno(**long** phoneno) {

**this**.phoneno = phoneno;

}

**public** UserRegister(**int** id, String name, String email, String password, String country, **long** phoneno) {

**super**();

**this**.id = id;

**this**.name = name;

**this**.email = email;

**this**.password = password;

**this**.country = country;

**this**.phoneno = phoneno;

}

public UserRegister() {

// **TODO** Auto-generated constructor stub

}

}

**UserRegisterRepo.java**

**package** com.simplilearn.demo;

**import** org.springframework.data.jpa.repository.JpaRepository;

**import** org.springframework.stereotype.Repository;

@Repository

**public** **interface** UserRegisterRepo **extends** JpaRepository<UserRegister, Integer> {

}

**UserRegisterService.java**

**package** com.simplilearn.demo;

**import** java.util.List;

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

**import** org.springframework.stereotype.Service;

@Service

**public** **class** UserRegisterService {

@Autowired

private UserRegisterRepo repo;

//add method or CREATE RECORD

**public** UserRegister addUser(UserRegister u) {

**return** repo.save(u);

}

//List user Method

**public** List<UserRegister> getAllUser(){

**return** repo.findAll();

}

}

**UserRegisterController.java**

**package** com.simplilearn.demo;

**import** java.util.List;

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

**import** org.springframework.http.HttpStatus;

**import** org.springframework.http.ResponseEntity;

**import** org.springframework.web.bind.annotation.GetMapping;

**import** org.springframework.web.bind.annotation.PostMapping;

**import** org.springframework.web.bind.annotation.RequestBody;

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

**import** org.springframework.web.bind.annotation.RestController;

@RestController

@RequestMapping("/api/userregister")

**public** **class** UserRegisterController {

@Autowired

**private** UserRegisterService service;

//create new record

@PostMapping("/")

**public** ResponseEntity<UserRegister> addUser(@RequestBody UserRegister u){

UserRegister user= service.addUser(u);

**if**(user!=**null**)

**return** **new** ResponseEntity<UserRegister>(user,HttpStatus.***CREATED***);

**else**

**return** **new** ResponseEntity<UserRegister>(user, HttpStatus.***INTERNAL\_SERVER\_ERROR***);

}

//List of Users Or RETRIVE DATA

@GetMapping("/")

**public** List<UserRegister> getAllUser(){

**return** service.getAllUser();

}

}

**Application.properties:**

spring.datasource.username=root

spring.datasource.password=root

spring.datasource.url=jdbc:mysql://localhost:3307/quiz\_app

spring.jpa.hibernate.ddl-auto=update

spring.jpa.properties.hibernate.dialect=org.hibernate.dialect.MySQL8Dialect

spring.jpa.show-sql=true

server.port=8082

**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>2.7.3</version>

<relativePath/> <!-- lookup parent from repository -->

</parent>

<groupId>com.simplilearn.demo</groupId>

<artifactId>QuizPortal</artifactId>

<version>0.0.1-SNAPSHOT</version>

<name>QuizPortal</name>

<description>OnlineQuizPortal</description>

<properties>

<java.version>17</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>org.springframework.boot</groupId>

<artifactId>spring-boot-starter-security</artifactId>

</dependency>

<dependency>

<groupId>mysql</groupId>

<artifactId>mysql-connector-java</artifactId>

<scope>runtime</scope>

</dependency>

<dependency>

<groupId>org.springframework.boot</groupId>

<artifactId>spring-boot-starter-test</artifactId>

<scope>test</scope>

</dependency>

</dependencies>

<build>

<plugins>

<plugin>

<groupId>org.springframework.boot</groupId>

<artifactId>spring-boot-maven-plugin</artifactId>

</plugin>

</plugins>

</build>

</project>