PHASE 3

Online Quiz Portal Using REST APIs

Source code:

Admin.java:

```
package com.bean;

import javax.persistence.Entity;
import javax.persistence.Id;
import javax.persistence.Table;

import org.springframework.stereotype.Component;

@Component
@Entity
@Table(name="admin")
public class Admin {

	@Id
	private int id;
	private String username;
	private String password;
	@Override
	public String toString() {
		return "Admin [id=" + id + ", username=" + username + ", password=" +
password + "]";
	}
	public int getId() {
		return id;
	}
	public void setId(int id) {
		this.id = id;
	}
	public String getUsername() {
		return username;
	}
	public void setUsername(String username) {
		this.username = username;
	}
	public String getPassword() {
		return password;
	}
	public void setPassword(String password) {
		this.password = password;
	}
```

}

Question.java:

```
package com.bean;

import javax.persistence.Column;
import javax.persistence.Entity;
import javax.persistence.GeneratedValue;
import javax.persistence.GenerationType;
import javax.persistence.Id;
import javax.persistence.Table;

import org.springframework.stereotype.Component;

@Component
@Entity
@Table(name="question")
public class Question  {
	@Id
	@GeneratedValue(strategy = GenerationType.IDENTITY)
	private int qid;
	private String quest;
	private String opt1;
	private String opt2;
	private String opt3;
	private String opt4;
	private int ans;

	public int getQid() {
		return qid;
	}
```

```
public void setQid(int qid) {
	this.qid = qid;
}

public String getQuest() {
	return quest;
}

public void setQuest(String quest) {
	this.quest = quest;
}

public String getOpt1() {
	return opt1;
}

public void setOpt1(String opt1) {
	this.opt1 = opt1;
}

public String getOpt2() {
	return opt2;
}

public void setOpt2(String opt2) {
	this.opt2 = opt2;
}

public String getOpt3() {
	return opt3;
```

```
	}

	public void setOpt3(String opt3) {
		this.opt3 = opt3;
	}

	public String getOpt4() {
		return opt4;
	}

	public void setOpt4(String opt4) {
		this.opt4 = opt4;
	}

	public int getAns() {
		return ans;
	}

	public void setAns(int ans) {
		this.ans = ans;
	}

	@Override
	public String toString() {
		return "Question [qid=" + qid + ", quest=" + quest + ", opt1=" + opt1 + ",
opt2=" + opt2 + ", opt3=" + opt3
				+ ", opt4=" + opt4 + ", ans=" + ans + "]";
	}

}
```

Quiz.java:

```
package com.bean;



import javax.persistence.Entity;
import javax.persistence.GeneratedValue;
import javax.persistence.GenerationType;
import javax.persistence.Id;
import  javax.persistence.JoinColumn;
import javax.persistence.ManyToOne;
import javax.persistence.Table;

import org.springframework.stereotype.Component;

@Component
@Entity
@Table(name="quiz")
public class Quiz {

	@Id
	@GeneratedValue(strategy = GenerationType.IDENTITY)
	private int quid;
	private String title;
	private int quizno;
	private String subject;
	@ManyToOne
	@JoinColumn(referencedColumnName = "qid")
	private Question qid;
	public int getQuizno() {
		return quizno;
```

```
}
public void setQuizno(int quizno) {
	this.quizno = quizno;
}
public int getQuid() {
	return quid;
}
public void setQuid(int quid) {
	this.quid = quid;
}
public String getTitle() {
	return title;
}
public void setTitle(String title) {
	this.title = title;
}
public String getSubject() {
	return subject;
}
public void setSubject(String subject) {
	this.subject = subject;
}
public Question getQid() {
	return qid;
}
public void setQid(Question qid) {
	this.qid = qid;
}
@Override
public String toString() {
```

```
                return "Quiz [quid=" + quid + ", title=" + title + ", quizno=" + quizno + ",
subject=" + subject + ", qid="
                                + qid + "]";
        }
}
```

Result.java:

```
package com.bean;


public class Result implements Comparable<Result>{

        //private int resid;
        private String email;
        private Integer marks;
        public Result()
        {

        }
        public Result(String email2, int mark) {
                // TODO Auto-generated constructor stub]
                this.email=email2;this.marks=mark;
        }
//      public int getResid() {
//              return resid;
//      }
//      public void setResid(int resid) {
//              this.resid = resid;
//      }
        public String getEmail() {
                return email;
        }
        public void setEmail(String email) {
                this.email = email;
        }
        public Integer getMarks() {
                return marks;
        }
        public void setMarks(Integer marks) {
                this.marks = marks;
        }
        @Override
        public String toString() {
                return "Result [email=" + email + ", marks=" + marks + "]";
        }
        @Override
        public int compareTo(Result r) {
                // TODO Auto-generated method stub
```

```
		int comparemarks= r.getMarks();
		return comparemarks-this.marks;
	}


}
```

Statistics.java:

```
package com.bean;


import java.util.List;


import org.springframework.stereotype.Component;


@Component
public class Statistics {


	private int users;
	private List<Object> quiz;
	private int questions;
	@Override
	public String toString() {
		return "Statistics [users=" + users + ", quiz=" + quiz + ", questions=" +
questions + "]";
	}
	public int getUsers() {
		return users;
	}
	public void setUsers(int users) {
		this.users = users;
	}
	public List<Object> getQuiz() {
		return quiz;
	}
```

```
	public void setQuiz(List<Object> quiz) {
		this.quiz = quiz;
	}
	public int getQuestions() {
		return questions;
	}
	public void setQuestions(int questions) {
		this.questions = questions;
	}

}
```

Test,java:

```
package com.bean;

import javax.persistence.CascadeType;
import javax.persistence.Entity;
import javax.persistence.GeneratedValue;
import javax.persistence.GenerationType;
import javax.persistence.Id;
import  javax.persistence.JoinColumn;
import javax.persistence.ManyToOne;
import javax.persistence.Table;


import org.springframework.stereotype.Component;

@Component
@Entity
@Table(name="test")
public class Test {
```

```
@Id
@GeneratedValue(strategy = GenerationType.IDENTITY)
private int tid;
@ManyToOne
@JoinColumn(referencedColumnName = "uid")
private User userid;
@ManyToOne
@JoinColumn(referencedColumnName = "quid")
private Quiz quizid;
@ManyToOne
@JoinColumn(referencedColumnName = "qid")
private Question questionid;
private int testans;

public int getTid() {
	return tid;
}

public void setTid(int tid) {
	this.tid = tid;
}

public User getUserid() {
	return userid;
}

public void setUserid(User userid) {
	this.userid = userid;
}
```

```
	public Quiz getQuizid() {
		return quizid;
	}

	public void setQuizid(Quiz quizid) {
		this.quizid = quizid;
	}

	public Question getQuestionid() {
		return questionid;
	}

	public void setQuestionid(Question questionid) {
		this.questionid = questionid;
	}

	public int getTestans() {
		return testans;
	}

	public void setTestans(int testans) {
		this.testans = testans;
	}

	@Override
	public String toString() {
		return "Test [tid=" + tid + ", userid=" + userid + ", quid=" + quizid + ",
questionid=" + questionid
				+ ", testans=" + testans + "]";
	}
```

}

User.java:

```
package com.bean;

import java.io.Externalizable;
import java.io.IOException;
import java.io.ObjectInput;
import java.io.ObjectOutput;

import javax.persistence.Entity;
import javax.persistence.GeneratedValue;
import javax.persistence.GenerationType;
import javax.persistence.Id;
import javax.persistence.Table;
import javax.persistence.UniqueConstraint;

import org.springframework.stereotype.Component;

@Component
@Entity
@Table(name="user")
public class User implements Externalizable {
	@Id
	@GeneratedValue(strategy = GenerationType.IDENTITY)
	private int uid;
	private String emailid;
	private String password;
	private long phno;
```

```
public int getUid() {
	return uid;
}
public void setUid(int uid) {
	this.uid = uid;
}
public String getEmailid() {
	return emailid;
}
public void setEmailid(String emailid) {
	this.emailid = emailid;
}
public String getPassword() {
	return password;
}
public void setPassword(String password) {
	this.password = password;
}
public long getPhno() {
	return phno;
}
public void setPhno(long phno) {
	this.phno = phno;
}
@Override
public void writeExternal(ObjectOutput out) throws IOException {
	// TODO Auto-generated method stub

}
@Override
```

```
	public void readExternal(ObjectInput in) throws IOException,
ClassNotFoundException {
		// TODO Auto-generated method stub

	}

}
```

MainController.java:

```
package com.controller;

import java.util.List;

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

import com.bean.Admin;
import com.bean.Question;
import com.bean.Quiz;
import com.bean.Result;
import com.bean.Statistics;
import com.bean.Test;
import com.bean.User;
import com.service.AdminSer;
import com.service.UserSer;

@RestController
```

```
@RequestMapping("mcq")
public class MainController {
	@Autowired
	UserSer us;
	@Autowired
	AdminSer as;

	//http://localhost:8080/mcq/userLogin
	@PostMapping(value="userLogin", consumes =
MediaType.APPLICATION_JSON_VALUE)
	public String userLogin(@RequestBody User u)
	{
			return us.userLogin(u.getEmailid(), u.getPassword());
	}

	//http://localhost:8080/mcq/userRegister
	@PostMapping(value="userRegister", consumes =
MediaType.APPLICATION_JSON_VALUE)
	public String userRegiter(@RequestBody User u)
	{
		return us.userRegister(u);
	}

	//http://localhost:8080/mcq/adminLogin
	@PostMapping(value="adminLogin", consumes =
MediaType.APPLICATION_JSON_VALUE)
	public String adminLogin(@RequestBody Admin u)
	{
			return as.adminLogin(u);
	}
```

```
	//http://localhost:8080/mcq/adminupdate
		@PostMapping(value="adminupdate", consumes =
MediaType.APPLICATION_JSON_VALUE)
		public String adminUpdate(@RequestBody Admin u)
		{
			return as.adminupdate(u);
		}




	//http://localhost:8080/mcq/addQuestions
	@PostMapping(value="addQuestions", consumes =
MediaType.APPLICATION_JSON_VALUE)
	public String addQuestion(@RequestBody Question q)
	{
		return as.addQuestion(q);
	}


	//http://localhost:8080/mcq/addQuiz
	@PostMapping(value="addQuiz", consumes =
MediaType.APPLICATION_JSON_VALUE)
	public String addQuiz(@RequestBody Quiz q)
	{
		return as.addQuiz(q);
	}


	//http://localhost:8080/mcq/viewAllQuiz
		@GetMapping(value="viewAllQuiz", produces=
MediaType.APPLICATION_JSON_VALUE)
		public List<Quiz> viewAllQuiz()
		{
```

```
                return as.viewAllQuiz();
        }

        //http://localhost:8080/mcq/quizinfo
        @GetMapping(value="quizinfo", produces=
MediaType.APPLICATION_JSON_VALUE)
        public Statistics quizinfo()
        {
                return as.quizInfo();
        }

        //http://localhost:8080/mcq/viewQuiz
                @GetMapping(value="viewQuiz", produces=
MediaType.APPLICATION_JSON_VALUE)
                public List<Object> viewQuiz()
                {
                        return us.viewAllQuiz();
                }

                //http://localhost:8080/mcq/takeTest
                @PostMapping(value="takeTest", consumes =
MediaType.APPLICATION_JSON_VALUE)
                public String takeTest(@RequestBody Test t)
                {
                        return us.takeTest(t);
                }

                //http://localhost:8080/mcq/getAllTest
                @GetMapping(value="getAllTest", produces=
MediaType.APPLICATION_JSON_VALUE)
                public List<Test> getAllTest()
```

```
{
		return us.getTestList();
}

//http://localhost:8080/mcq/getresult
@GetMapping(value="getresult", produces=
MediaType.APPLICATION_JSON_VALUE)
public List<Result> getresult()
{
		return us.result();
}

//http://localhost:8080/mcq/getAdminResult
@GetMapping(value="getAdminResult", produces=
MediaType.APPLICATION_JSON_VALUE)
public List<Result> getAdminResult()
{
		return us.result();
}

}
```

OnLineQuizPortal.java:

```
package com.demo;

import org.springframework.boot.SpringApplication;
import org.springframework.boot.autoconfigure.SpringBootApplication;
import org.springframework.boot.autoconfigure.domain.EntityScan;
import org.springframework.data.jpa.repository.config.EnableJpaRepositories;

@SpringBootApplication(scanBasePackages = "com")
@EntityScan("com.bean")
```

```
@EnableJpaRepositories("com.repository")
public class OnlineQuizPortalRestApplication {

	public static void main(String[] args) {
		SpringApplication.run(OnlineQuizPortalRestApplication.class, args);
	}

}
```

AdminRepro.java:

```
package com.repository;

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

import com.bean.Admin;

public interface AdminRepo extends JpaRepository<Admin, Integer> {

}
```

Question.java:

```
package com.repository;

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

import com.bean.Question;

@Repository
public interface Questionrepo extends JpaRepository<Question, Integer> {

}
```

QuizRepo.java:

```
package com.repository;

import java.util.List;

import org.springframework.data.jpa.repository.JpaRepository;
import org.springframework.data.jpa.repository.Query;
import org.springframework.stereotype.Repository;

import com.bean.Quiz;
@Repository
public interface Quizrepo extends JpaRepository<Quiz, Integer>{

	@Query("select q.title,count(distinct q.quizno) from Quiz as q group by q.quizno")
	public List<Object> listOfQuiz();

//	@Query("select q.title,count(distinct q.quiz from Quiz as q group by q.quizno")
//	public List<Object> viewAllQuiz();
}
```

TestRepo.java:

```
package com.repository;

import java.util.List;

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

import com.bean.Test;

public interface Testrepo extends JpaRepository<Test, Integer>{
```

```
	@Query("Select t from Test as t group by t.userid")
	List<Test> getIndividual();

}
```

Userrepo.java:

```
package com.repository;

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

import com.bean.User;

@Repository
public interface Userrepo extends JpaRepository<User, Integer>{

	 public User findByEmailid(String emailid);

}
```

Admin.java:

```
package com.service;

import java.util.List;

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

import com.bean.Admin;
import com.bean.Question;
import com.bean.Quiz;
```

```
import com.bean.Result;
import com.bean.Statistics;
import com.bean.User;
import com.repository.AdminRepo;
import com.repository.Questionrepo;
import com.repository.Quizrepo;
import com.repository.Userrepo;

@Service
public class AdminSer {
	@Autowired
	Questionrepo qr;
	@Autowired
	Quizrepo qur;
	@Autowired
	Userrepo ur;
	@Autowired
	Statistics stat;
	@Autowired
	AdminRepo adr;



	public String adminLogin(Admin u)
	{
		Admin ad= adr.findById(1).get();

	if(u.getUsername().equals(ad.getUsername())&&u.getPassword().equals(ad.getPassw
ord()))
		{
			return "Welcome admin";
```

```
        }
        else
        {
                return "invalid Credentials";
        }
}
public String adminupdate(Admin a)
{
        Admin ad= adr.findById(1).get();
        ad.setUsername(a.getUsername());
        ad.setPassword(a.getUsername());
        adr.saveAndFlush(ad);
                return "Updated";



}

public String addQuestion(Question q)
{
        if(q!=null)
        {
                qr.save(q);
                return "question added";
        }
        else
        {
                return "failed to add";
        }

}
```

```
public String addQuiz(Quiz q)
{

	if(q!=null)
	{
		qur.save(q);
		return "quiz added";
	}
	else
	{
		return "failed to add";
	}
}

public List<Quiz> viewAllQuiz()
{
	return qur.findAll();
}

public Statistics quizInfo()
{
	stat.setUsers(ur.findAll().size());
	stat.setQuestions(qr.findAll().size());
	stat.setQuiz(qur.listOfQuiz());

	return stat;

}
```

}

User.java:

```
package com.service;

import java.util.ArrayList;
import java.util.Collections;
import java.util.List;

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

import com.bean.Result;
import com.bean.Test;
import com.bean.User;
import com.repository.Quizrepo;
//import com.repository.Resultrepo;
import com.repository.Testrepo;
import com.repository.Userrepo;

@Service
public class UserSer {


	List<Result> finalList=new ArrayList<>();
	@Autowired
	Userrepo  ur;
	@Autowired
	Quizrepo qr;
```

```
	@Autowired
	Testrepo tr;
	@Autowired
//	Resultrepo resrepo;
//	@Autowired
	User u;
	@Autowired
	Test t;

	Result r= new Result();

	public String userLogin(String email,String password)
	{
		u=ur.findByEmailid(email);
		if(u!=null)
		{


		if(u.getEmailid().equals(email)&&u.getPassword().equals(password))
		{
			return "login sucessfull";
		}
		else
		{
			return "invalid credentials";
		}


	}
	else
```

```
	{
		return "User not found";
	}


}


	public String userRegister(User u)
	{
		if(ur.findByEmailid(u.getEmailid())==null)
		{
			ur.save(u);
			return "registered";
		}
		else
		{
			return "User already exists";
		}
	}

	public List<Object> viewAllQuiz()
	{
		return qr.listOfQuiz();
	}

	public String takeTest(Test t)
	{
		if(t!=null)
		{
```

```
                tr.save(t);
                return "submitted";
        }

        else
        {
                return "submission failed";
        }

}

public List<Test> getTestList()
{
        return tr.findAll();
}

public List<Result> result()
{
        String email="";
        int mark=0;
        List<Test> obj=tr.findAll();
        List<User> u= ur.findAll();
        for (User user : u) {
                mark=0;
                email=user.getEmailid();
                System.out.println(user.getEmailid());

                for(Test ob :obj)
                {
                        if(user.getUid()==ob.getUserid().getUid())
```

```
                {

                        if(ob.getTestans()==ob.getQuestionid().getAns())
                        {
                                mark++;
                        }
                        System.out.println("inside"+mark);

                }
        }
        System.out.println("outside"+mark);



        finalList.add(new Result(email,mark));




    }
    System.out.println("final :"+mark);

    Collections.sort(finalList);

    return finalList;

  }
}
```

Application.properties:

```
Spring.application.name=Online_Quiz
spring.jpa.hibernate.ddl-auto=update
spring.datasource.url=jdbc:mysql://localhost:3306/mcq
spring.datasource.username=root
spring.datasource.password=Kabilan@1234
```

```
spring.datasource.driver-class-name=com.mysql.cj.jdbc.Driver
spring.jpa.show-sql: true
spring.jpa.properties.hibernate.format_sql=true
logging.level.org.hibernate.SQL=DEBUG
logging.level.org.hibernate.type=TRACE
```