ONLINE QUIZ PORTAL USING REST API'S

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=Vaishu18
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
```