Co-op System

**Introduction**

Co-op System is a web application for students to register co-ops in employer’s organization and let employers select the qualified students. The project is built in STS and runs on Tomcat Server.

**Functionality**

In the system, employers will post coop opportunities for students. Students will upload their resumes and search coops by coop’s title or employer’s organization. Also, students would apply the coops they are fond of. Employers could view the coop’s details they posted and the students who applied for the coops and finally select the qualified students.

**Technologies**

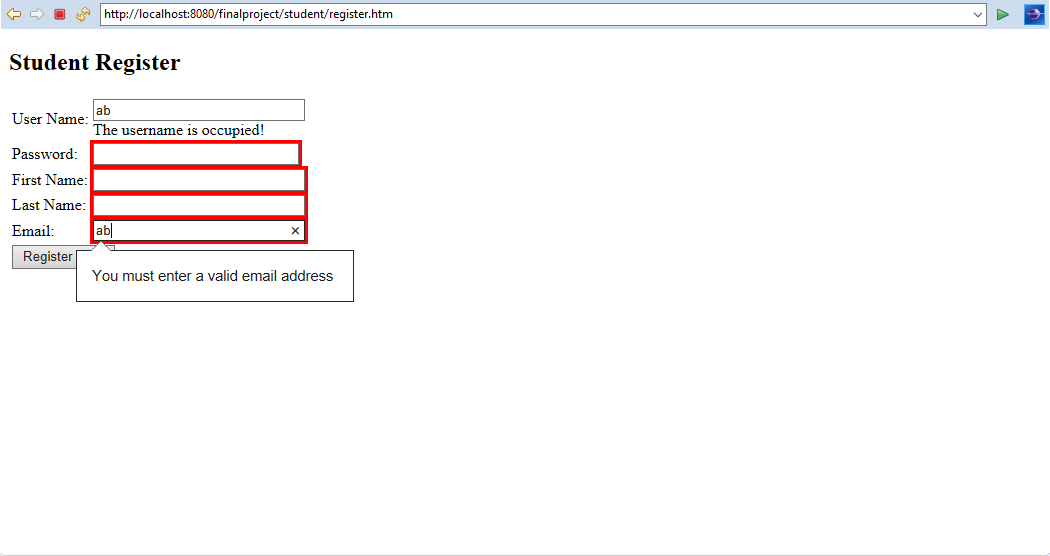
* STS: <https://spring.io/tools/sts>
* Spring: <http://www.springsource.org/about>
* Hibernate: <http://hibernate.org/>
* JBoss tools/Hibernate Annotations: <https://tools.jboss.org/>
* MySQL: <http://www.mysql.com/>
* jQuery: <http://api.jquery.com/>
* Ajax: <https://api.jquery.com/category/ajax/>
* JSON: <https://www.json.org/>
* AngularJS: <https://angularjs.org/>
* Tomcat: <http://tomcat.apache.org/>

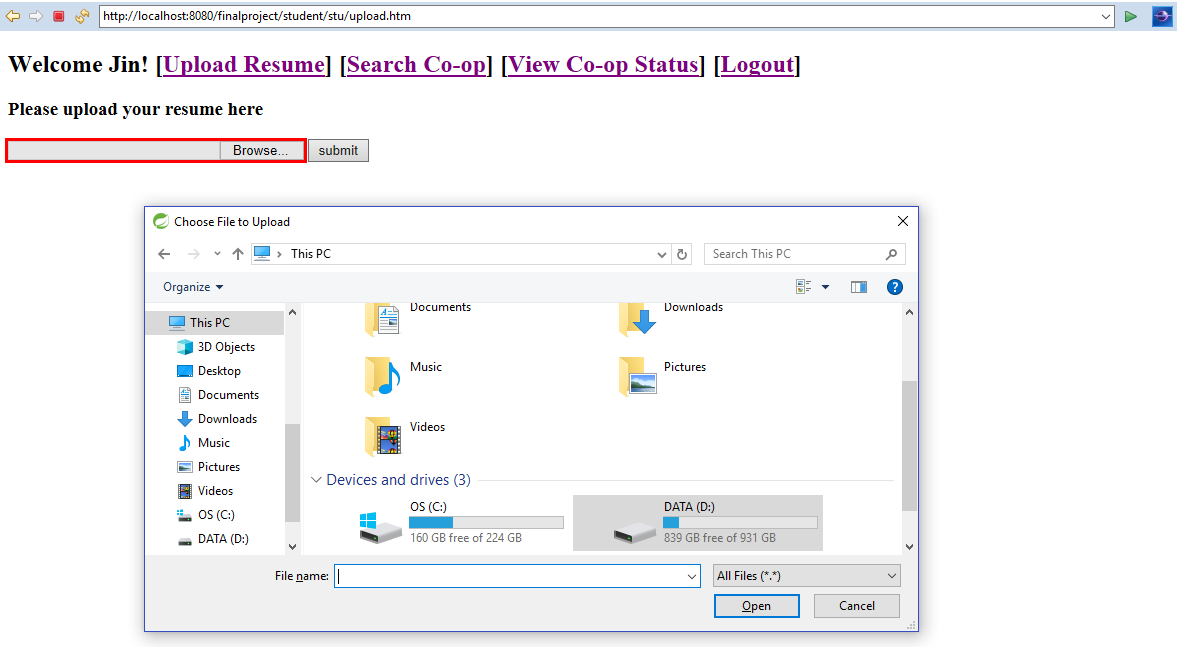
**Roles**

1. Students
   1. Sign up / Sign in
   2. Upload Resume
   3. Search Coops
   4. Apply Coops
   5. View Status of Coops they applied
   6. Sign out
2. Employers
   1. Sign up / Sign in
   2. Post coops
   3. View posted coops
   4. View coop details
   5. Accept/Reject Students
   6. Sign out

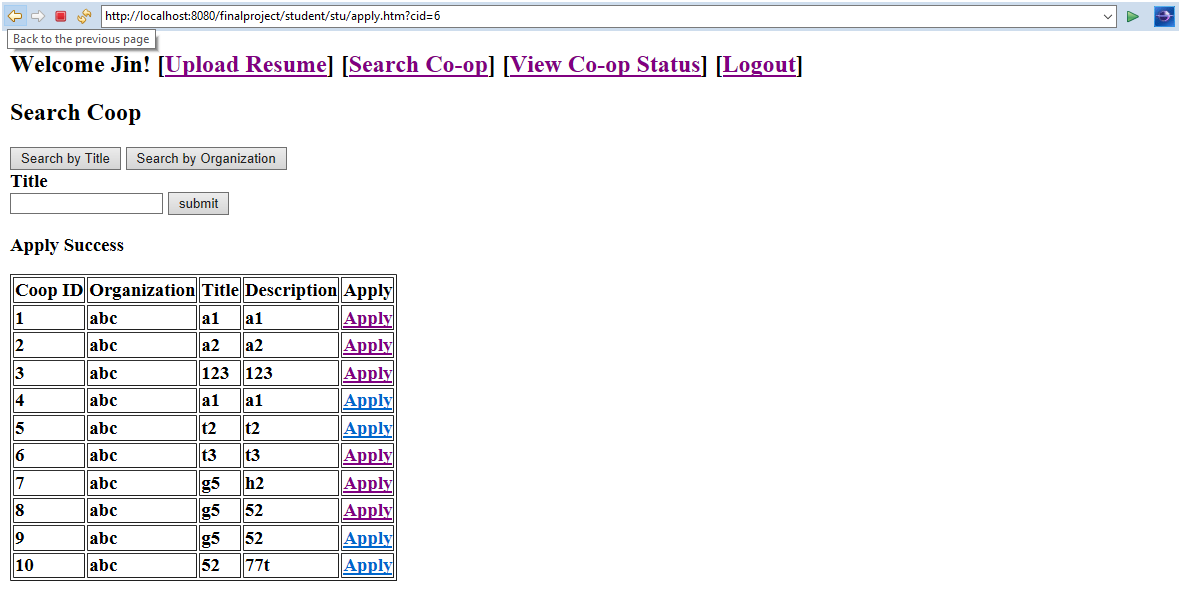
**Screenshots**

Student/Register

  
Student/Upload Resume



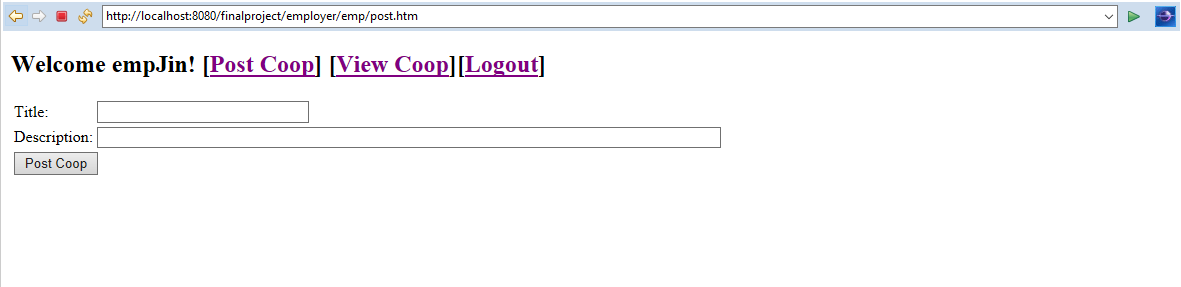
Student/ Search coop + Apply coop



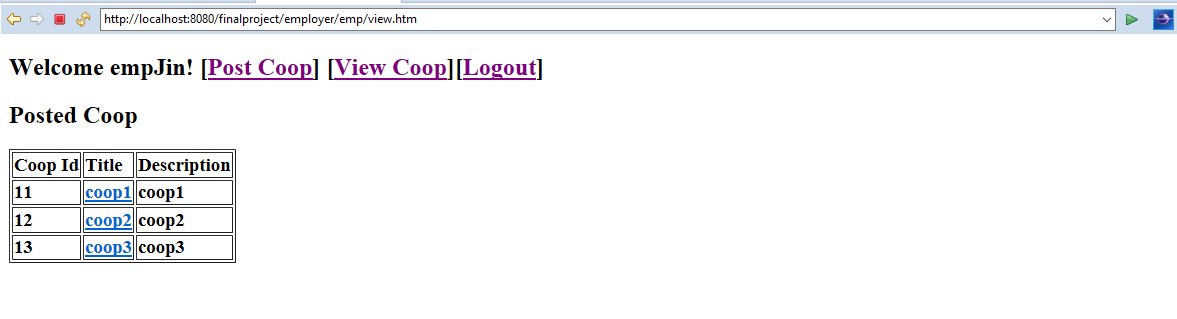
Student/ View coop details



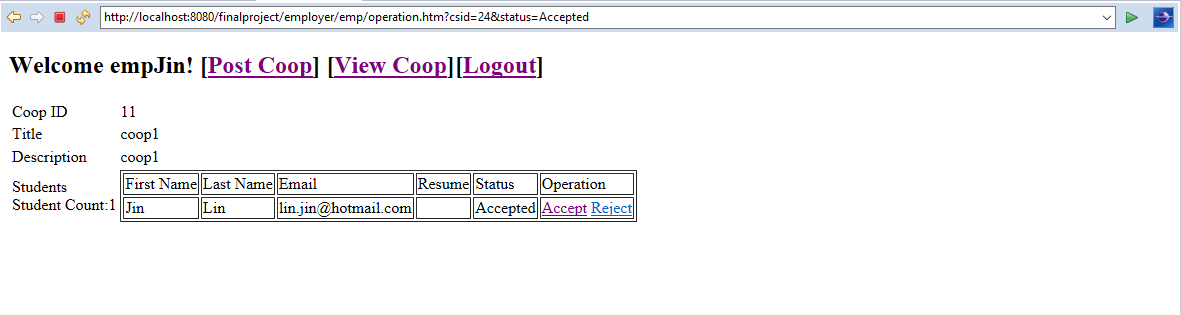
Employer/ Post coop



Employer/ View Coops



Employer/ View coops detail/ Accept Student/ Reject Student



**Appendix**

* **Employer POJO**

**package com.me.finalproject.controller;**

**import javax.servlet.http.HttpServletRequest;**

**import javax.servlet.http.HttpSession;**

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

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

**import org.springframework.stereotype.Controller;**

**import org.springframework.validation.BindingResult;**

**import org.springframework.web.bind.WebDataBinder;**

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

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

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

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

**import org.springframework.web.servlet.ModelAndView;**

**import com.me.finalproject.dao.EmployerDAO;**

**import com.me.finalproject.pojo.Employer;**

**import com.me.finalproject.pojo.User;**

**import com.me.finalproject.validator.EmployerValidator;**

**@Controller**

**public class EmployerController {**

**@Autowired**

**@Qualifier("employerDao")**

**EmployerDAO employerDao;**

**@Autowired**

**@Qualifier("employerValidator")**

**EmployerValidator validator;**

**@InitBinder**

**private void initBinder(WebDataBinder binder) {**

**binder.setValidator(validator);**

**}**

**@RequestMapping(value = "/employer/emp/logout.htm", method = RequestMethod.GET)**

**public ModelAndView EmployerLogout(HttpServletRequest request) {**

**System.out.println("EmployerLogout");**

**HttpSession sess = request.getSession();**

**sess.setAttribute("user", null);**

**return new ModelAndView("select\_role");**

**}**

**@RequestMapping(value = "/employer/login.htm", method = RequestMethod.GET)**

**public ModelAndView EmployerLogin() {**

**System.out.println("EmployerLogin");**

**return new ModelAndView("emp\_login");**

**}**

**@RequestMapping(value = "/employer/login.htm", method = RequestMethod.POST)**

**public String Employer\_Login(HttpServletRequest request) {**

**System.out.println("Employer\_Login");**

**HttpSession session = request.getSession();**

**try {**

**System.out.print("loginEmployer");**

**Employer emp = employerDao.get(request.getParameter("username"), request.getParameter("password"));**

**if (emp == null) {**

**System.out.println("UserName/Password does not exist");**

**session.setAttribute("errorMessage", "UserName/Password does not exist");**

**return "error";**

**}**

**session.setAttribute("user", emp);**

**return "emp\_home";**

**} catch (Exception e) {**

**System.out.println("Exception: " + e.getMessage());**

**session.setAttribute("errorMessage", "error while login");**

**return "error";**

**}**

**}**

**@RequestMapping(value = "/employer/register.htm", method = RequestMethod.GET)**

**public ModelAndView EmployerRegister() {**

**System.out.println("employer\_register");**

**return new ModelAndView("emp\_register", "employer", new Employer());**

**}**

**@RequestMapping(value = "/employer/register.htm", method = RequestMethod.POST)**

**public ModelAndView Employer\_Register(HttpServletRequest request, @ModelAttribute("employer") Employer emp,**

**BindingResult result) throws Exception {**

**validator.validate(emp, result);**

**User u = employerDao.get(emp.getUsername());**

**if (result.hasErrors() || u != null) {**

**return new ModelAndView("emp\_register", "employer", emp);**

**}**

**try {**

**System.out.print("registerNewUser");**

**Employer e = employerDao.register(emp);**

**request.getSession().setAttribute("user", e);**

**return new ModelAndView("emp\_home", "user", e);**

**} catch (Exception e) {**

**System.out.println("Exception: " + e.getMessage());**

**return new ModelAndView("error", "errorMessage", "error while login");**

**}**

**}**

**}**

* **EmployerCoopController**

**package com.me.finalproject.controller;**

**import java.io.IOException;**

**import java.io.PrintWriter;**

**import java.util.ArrayList;**

**import java.util.List;**

**import javax.servlet.http.HttpServletRequest;**

**import javax.servlet.http.HttpServletResponse;**

**import javax.servlet.http.HttpSession;**

**import org.codehaus.jackson.map.ObjectMapper;**

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

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

**import org.springframework.stereotype.Controller;**

**import org.springframework.validation.BindingResult;**

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

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

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

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

**import org.springframework.web.servlet.ModelAndView;**

**import com.me.finalproject.dao.CoopDAO;**

**import com.me.finalproject.dao.EmployerDAO;**

**import com.me.finalproject.dao.StudentDAO;**

**import com.me.finalproject.pojo.Coop;**

**import com.me.finalproject.pojo.CoopStudent;**

**import com.me.finalproject.pojo.Employer;**

**import com.me.finalproject.pojo.Student;**

**import com.me.finalproject.pojo.User;**

**import com.me.finalproject.validator.CoopValidator;**

**@Controller**

**public class EmployerCoopController {**

**@Autowired**

**@Qualifier("coopValidator")**

**CoopValidator validator;**

**@Autowired**

**@Qualifier("coopDao")**

**CoopDAO coopDao;**

**@Autowired**

**@Qualifier("studentDao")**

**StudentDAO studentDao;**

**@Autowired**

**@Qualifier("employerDao")**

**EmployerDAO employerDao;**

**@RequestMapping(value = "/employer/emp/post.htm", method = RequestMethod.GET)**

**public ModelAndView coopForm() {**

**return new ModelAndView("emp\_post", "coop", new Coop());**

**}**

**@RequestMapping(value = "/employer/emp/post.htm", method = RequestMethod.POST)**

**public ModelAndView coopSuccess(HttpServletRequest request, @ModelAttribute("coop") Coop coop, BindingResult result)**

**throws Exception {**

**validator.validate(coop, result);**

**if (result.hasErrors()) {**

**return new ModelAndView("emp\_post", "coop", coop);**

**}**

**try {**

**System.out.println("postcoop");**

**HttpSession session = request.getSession();**

**coop.setPostedby((Employer) session.getAttribute("user"));**

**coopDao.savecoop(coop);**

**return new ModelAndView("emp\_post", "message", "Coop posted successfully");**

**} catch (Exception e) {**

**System.out.println("Exception: " + e.getMessage());**

**return new ModelAndView("error", "errorMessage", "error while post a coop");**

**}**

**}**

**@RequestMapping(value = "/employer/emp/view.htm", method = RequestMethod.GET)**

**public ModelAndView viewCoop(HttpServletRequest request) throws Exception {**

**System.out.println("ViewCoop");**

**HttpSession session = request.getSession();**

**User emp = (User) session.getAttribute("user");**

**try {**

**List<Coop> coops = coopDao.get(emp.getUid());**

**ObjectMapper mapper = new ObjectMapper();**

**return new ModelAndView("emp\_view", "coops", mapper.writeValueAsString(coops));**

**} catch (Exception e) {**

**System.out.println("Error in view coops: " + e.getMessage());**

**return new ModelAndView("error", "errorMessage", "error while viewing coops");**

**}**

**}**

**@RequestMapping(value = "/employer/emp/coop.htm", method = RequestMethod.GET)**

**public ModelAndView viewDetail(HttpServletRequest request) throws Exception {**

**try {**

**String cid = request.getParameter("cid");**

**Coop c = coopDao.getByCoopId(cid);**

**ModelAndView mv = new ModelAndView("emp\_viewdetail");**

**mv.addObject("c", c);**

**ObjectMapper mapper = new ObjectMapper();**

**System.out.println(mapper.writeValueAsString(c.getCoopstudents()));**

**mv.addObject("students", mapper.writeValueAsString(c.getCoopstudents()));**

**return mv;**

**} catch (Exception e) {**

**System.out.println("Error in view detail: " + e.getMessage());**

**return new ModelAndView("error", "errorMessage", "error while viewing details");**

**}**

**}**

**@RequestMapping(value = "/employer/emp/operation.htm", method = RequestMethod.GET)**

**public ModelAndView accept(HttpServletRequest request) throws Exception {**

**ModelAndView mv = new ModelAndView("emp\_viewdetail");**

**String csid = request.getParameter("csid");**

**String status = request.getParameter("status");**

**System.out.println("Accept:" + csid);**

**try {**

**CoopStudent cs = coopDao.updateCoopStudent(csid, status);**

**Coop c = cs.getCoop();**

**mv.addObject("c", cs.getCoop());**

**System.out.println(c.getCid());**

**ObjectMapper mapper = new ObjectMapper();**

**System.out.println(mapper.writeValueAsString(c.getCoopstudents()));**

**mv.addObject("students", mapper.writeValueAsString(c.getCoopstudents()));**

**return mv;**

**} catch (Exception e) {**

**System.out.println("Error in view detail: " + e.getMessage());**

**return new ModelAndView("error", "errorMessage", "error while viewing details");**

**}**

**}**

**@ResponseBody**

**@RequestMapping(value = "/employer/ajax.htm", method = RequestMethod.POST)**

**public String ajax(HttpServletRequest request, HttpServletResponse response) throws Exception {**

**PrintWriter out = response.getWriter();**

**String username = request.getParameter("username");**

**try {**

**User user = employerDao.get(username);**

**if (user!=null) out.println("The username is occupied!");**

**} catch (Exception e) {**

**System.out.println("exception in ajax:" + e.getMessage());**

**}**

**return null;**

**}**

**}**

* **StudentController**

**package com.me.finalproject.controller;**

**import java.io.PrintWriter;**

**import javax.servlet.http.HttpServletRequest;**

**import javax.servlet.http.HttpServletResponse;**

**import javax.servlet.http.HttpSession;**

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

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

**import org.springframework.stereotype.Controller;**

**import org.springframework.validation.BindingResult;**

**import org.springframework.web.bind.WebDataBinder;**

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

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

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

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

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

**import org.springframework.web.servlet.ModelAndView;**

**import com.me.finalproject.dao.StudentDAO;**

**import com.me.finalproject.pojo.Student;**

**import com.me.finalproject.pojo.User;**

**import com.me.finalproject.validator.StudentValidator;**

**@Controller**

**public class StudentController {**

**@Autowired**

**@Qualifier("studentDao")**

**StudentDAO studentDao;**

**@Autowired**

**@Qualifier("studentValidator")**

**StudentValidator validator;**

**@InitBinder**

**private void initBinder(WebDataBinder binder) {**

**binder.setValidator(validator);**

**}**

**@RequestMapping(value = "/student/stu/logout.htm", method = RequestMethod.GET)**

**public ModelAndView EmployerLogout(HttpServletRequest request) {**

**System.out.println("StudentLogout");**

**HttpSession sess = request.getSession();**

**sess.setAttribute("user", null);**

**return new ModelAndView("select\_role");**

**}**

**@RequestMapping(value = "/student/login.htm", method = RequestMethod.GET)**

**public ModelAndView studentLogin() {**

**System.out.println("StudentLogin");**

**return new ModelAndView("student\_login");**

**}**

**@RequestMapping(value = "/student/login.htm", method = RequestMethod.POST)**

**public String student\_Login(HttpServletRequest request) {**

**System.out.println("Student\_Login\_Post");**

**HttpSession session = request.getSession();**

**try {**

**System.out.print("loginStudent");**

**Student student = studentDao.get(request.getParameter("username"), request.getParameter("password"));**

**if (student == null) {**

**System.out.println("UserName/Password does not exist");**

**session.setAttribute("errorMessage", "UserName/Password does not exist");**

**return "error";**

**}**

**session.setAttribute("user", student);**

**return "student\_home";**

**} catch (Exception e) {**

**System.out.println("Exception: " + e.getMessage());**

**session.setAttribute("errorMessage", "error while login");**

**return "error";**

**}**

**}**

**@RequestMapping(value = "/student/register.htm", method = RequestMethod.GET)**

**public ModelAndView studentRegister() {**

**System.out.println("Student\_register");**

**return new ModelAndView("student\_register", "student", new Student());**

**}**

**@RequestMapping(value = "/student/register.htm", method = RequestMethod.POST)**

**public ModelAndView student\_Register(HttpServletRequest request, @ModelAttribute("student") Student student,**

**BindingResult result) throws Exception {**

**validator.validate(student, result);**

**User u = studentDao.get(student.getUsername());**

**if (result.hasErrors() || u!=null) {**

**return new ModelAndView("student\_register", "student", student);**

**}**

**try {**

**System.out.print("registerNewUser");**

**Student s = studentDao.register(student);**

**request.getSession().setAttribute("user", s);**

**return new ModelAndView("student\_home");**

**} catch (Exception e) {**

**System.out.println("Exception: " + e.getMessage());**

**return new ModelAndView("error", "errorMessage", "error while login");**

**}**

**}**

**@ResponseBody**

**@RequestMapping(value = "/student/ajax.htm", method = RequestMethod.POST)**

**public String ajax(HttpServletRequest request, HttpServletResponse response) throws Exception {**

**PrintWriter out = response.getWriter();**

**String username = request.getParameter("username");**

**try {**

**User user = studentDao.get(username);**

**if (user!=null) out.println("The username is occupied!");**

**} catch (Exception e) {**

**System.out.println("exception in ajax:" + e.getMessage());**

**}**

**return null;**

**}**

**}**

* **StudentCoopController**

**package com.me.finalproject.controller;**

**import java.io.File;**

**import java.io.IOException;**

**import java.io.PrintWriter;**

**import java.util.HashSet;**

**import java.util.List;**

**import java.util.Set;**

**import javax.servlet.http.HttpServletRequest;**

**import javax.servlet.http.HttpServletResponse;**

**import javax.servlet.http.HttpSession;**

**import org.codehaus.jackson.map.ObjectMapper;**

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

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

**import org.springframework.stereotype.Controller;**

**import org.springframework.validation.BindingResult;**

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

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

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

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

**import org.springframework.web.multipart.commons.CommonsMultipartFile;**

**import org.springframework.web.servlet.ModelAndView;**

**import com.me.finalproject.dao.CoopDAO;**

**import com.me.finalproject.dao.ResumeDAO;**

**import com.me.finalproject.dao.StudentDAO;**

**import com.me.finalproject.pojo.Resume;**

**import com.me.finalproject.pojo.Student;**

**import com.me.finalproject.pojo.User;**

**import com.me.finalproject.pojo.Coop;**

**import com.me.finalproject.validator.CoopValidator;**

**@Controller**

**public class StudentCoopController {**

**@Autowired**

**@Qualifier("coopValidator")**

**CoopValidator validator;**

**@Autowired**

**@Qualifier("studentDao")**

**StudentDAO studentDao;**

**@Autowired**

**@Qualifier("coopDao")**

**CoopDAO coopDao;**

**@Autowired**

**@Qualifier("resumeDao")**

**ResumeDAO resumeDao;**

**@RequestMapping(value = "/student/stu/upload.htm", method = RequestMethod.GET)**

**public ModelAndView uploadForm(HttpServletRequest request, HttpServletResponse response) throws IOException {**

**return new ModelAndView("student\_upload", "resume", new Resume());**

**}**

**@RequestMapping(value = "/student/stu/upload.htm", method = RequestMethod.POST)**

**public ModelAndView uploadSuccess(HttpServletRequest request, @ModelAttribute("resume") Resume resume,**

**BindingResult result) throws Exception {**

**CommonsMultipartFile fileinMemory = resume.getResume();**

**resume.setFilename(fileinMemory.getOriginalFilename());**

**File file = new File("C:/Users/Reyes/Desktop/New folder", fileinMemory.getOriginalFilename());**

**fileinMemory.transferTo(file);**

**HttpSession session = request.getSession();**

**Student student = (Student) session.getAttribute("user");**

**try {**

**resumeDao.saveResume(resume, student.getUid());**

**} catch (Exception e) {**

**System.out.println("Error in saving resume:" + e.getMessage());**

**return new ModelAndView("student\_home", "message", "Upload Fail");**

**}**

**return new ModelAndView("student\_home", "message", "Upload Success");**

**}**

**@RequestMapping(value = "/student/stu/search.htm", method = RequestMethod.GET)**

**public ModelAndView searchcoop(HttpServletRequest request, HttpServletResponse response) throws IOException {**

**HttpSession session = request.getSession();**

**String search = request.getParameter("search");**

**String by = request.getParameter("by");**

**System.out.println("in search coop");**

**List<Coop> coops = null;**

**try {**

**if (by != null && by.equals("org"))**

**coops = coopDao.searchEmp(search);**

**if (by != null && by.equals("title"))**

**coops = coopDao.searchTitle(search);**

**} catch (Exception e) {**

**System.out.println("error in search coop:" + e.getMessage());**

**}**

**ObjectMapper mapper = new ObjectMapper();**

**session.setAttribute("coops", mapper.writeValueAsString(coops));**

**return new ModelAndView("student\_search");**

**}**

**@RequestMapping(value = "/student/stu/apply.htm", method = RequestMethod.GET)**

**public ModelAndView applycoop(HttpServletRequest request, HttpServletResponse response) throws Exception {**

**String cid = request.getParameter("cid");**

**HttpSession session = request.getSession();**

**Student student = (Student) session.getAttribute("user");**

**try {**

**String message = "Apply Success";**

**if (studentDao.updateStudent(cid, student)==null) message = "Already applied";**

**return new ModelAndView("student\_search", "message", message);**

**} catch (Exception e) {**

**System.out.println("error in apply coop:" + e.getMessage());**

**return new ModelAndView("student\_search", "message", "Apply failed");**

**}**

**}**

**@RequestMapping(value = "/student/stu/view.htm", method = RequestMethod.GET)**

**public ModelAndView viewcoop(HttpServletRequest request, HttpServletResponse response) throws Exception {**

**System.out.println("StudentViewCoop");**

**HttpSession session = request.getSession();**

**Student student = (Student) session.getAttribute("user");**

**try {**

**Student s = studentDao.get(student.getUid());**

**System.out.println(s.getUid());**

**ObjectMapper mapper = new ObjectMapper();**

**return new ModelAndView("student\_view", "cs", mapper.writeValueAsString(s.getCoopstudent()));**

**} catch (Exception e) {**

**System.out.println("error in view coop:" + e.getMessage());**

**return new ModelAndView("error", "errorMessage", "View coop failed");**

**}**

**}**

**}**

* **Coop POJO**

**package com.me.finalproject.pojo;**

**import java.util.Set;**

**import javax.persistence.CascadeType;**

**import javax.persistence.Column;**

**import javax.persistence.Entity;**

**import javax.persistence.GeneratedValue;**

**import javax.persistence.GenerationType;**

**import javax.persistence.Id;**

**import javax.persistence.ManyToOne;**

**import javax.persistence.OneToMany;**

**import javax.persistence.Table;**

**import org.codehaus.jackson.annotate.JsonBackReference;**

**import org.codehaus.jackson.annotate.JsonManagedReference;**

**@Entity**

**@Table(name = "coop\_table")**

**public class Coop{**

**@Id**

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

**@Column(name = "cid", unique = true, nullable = false)**

**private int cid;**

**private String title;**

**private String description;**

**@ManyToOne(cascade = CascadeType.ALL)**

**private Employer postedby;**

**@OneToMany(mappedBy = "coop")**

**@JsonBackReference**

**private Set<CoopStudent> coopstudents;**

**public int getCid() {**

**return cid;**

**}**

**public void setCid(int cid) {**

**this.cid = cid;**

**}**

**public String getTitle() {**

**return title;**

**}**

**public void setTitle(String title) {**

**this.title = title;**

**}**

**public String getDescription() {**

**return description;**

**}**

**public void setDescription(String description) {**

**this.description = description;**

**}**

**public Employer getPostedby() {**

**return postedby;**

**}**

**public void setPostedby(Employer postedby) {**

**this.postedby = postedby;**

**}**

**public Set<CoopStudent> getCoopstudents() {**

**return coopstudents;**

**}**

**public void setCoopstudents(Set<CoopStudent> coopstudents) {**

**this.coopstudents = coopstudents;**

**}**

**}**

* **CoopStudent POJO**

**package com.me.finalproject.pojo;**

**import javax.persistence.Column;**

**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.codehaus.jackson.annotate.JsonBackReference;**

**import org.codehaus.jackson.annotate.JsonManagedReference;**

**@Entity**

**@Table(name = "coop\_student")**

**public class CoopStudent {**

**@Id**

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

**@Column(name = "cs\_id")**

**private int id;**

**@ManyToOne**

**@JoinColumn(name = "cid")**

**@JsonManagedReference**

**private Coop coop;**

**@ManyToOne**

**@JoinColumn(name = "uid")**

**@JsonManagedReference**

**private Student student;**

**private String status;**

**public int getId() {**

**return id;**

**}**

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

**this.id = id;**

**}**

**public Coop getCoop() {**

**return coop;**

**}**

**public void setCoop(Coop coop) {**

**this.coop = coop;**

**}**

**public Student getStudent() {**

**return student;**

**}**

**public void setStudent(Student student) {**

**this.student = student;**

**}**

**public String getStatus() {**

**return status;**

**}**

**public void setStatus(String status) {**

**this.status = status;**

**}**

**}**

* **Employer POJO**

**package com.me.finalproject.pojo;**

**import javax.persistence.Entity;**

**import javax.persistence.PrimaryKeyJoinColumn;**

**import javax.persistence.Table;**

**@Entity**

**@Table(name="employer\_table")**

**@PrimaryKeyJoinColumn(name = "uid")**

**public class Employer extends User{**

**private String orgname;**

**public Employer() {}**

**public Employer(String \_username, String \_password) {**

**super(\_username, \_password);**

**}**

**public String getOrgname() {**

**return orgname;**

**}**

**public void setOrgname(String orgname) {**

**this.orgname = orgname;**

**}**

**}**

* **Resume POJO**

**package com.me.finalproject.pojo;**

**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 javax.persistence.Transient;**

**import org.springframework.web.multipart.commons.CommonsMultipartFile;**

**@Entity**

**@Table(name = "resume\_table")**

**public class Resume {**

**@Id**

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

**@Column(name = "rid", unique = true, nullable = false)**

**private int rid;**

**@Column(name = "filename")**

**private String filename;**

**@Transient**

**private CommonsMultipartFile resume;**

**public int getRid() {**

**return rid;**

**}**

**public void setRid(int rid) {**

**this.rid = rid;**

**}**

**public String getFilename() {**

**return filename;**

**}**

**public void setFilename(String filename) {**

**this.filename = filename;**

**}**

**public CommonsMultipartFile getResume() {**

**return resume;**

**}**

**public void setResume(CommonsMultipartFile resume) {**

**this.resume = resume;**

**}**

**}**

* **Student POJO**

**package com.me.finalproject.pojo;**

**import java.util.Set;**

**import javax.persistence.CascadeType;**

**import javax.persistence.Entity;**

**import javax.persistence.OneToMany;**

**import javax.persistence.OneToOne;**

**import javax.persistence.PrimaryKeyJoinColumn;**

**import javax.persistence.Table;**

**import org.codehaus.jackson.annotate.JsonBackReference;**

**import org.codehaus.jackson.annotate.JsonManagedReference;**

**@Entity**

**@Table(name = "student\_table")**

**@PrimaryKeyJoinColumn(name = "uid")**

**public class Student extends User {**

**@OneToOne(cascade = CascadeType.ALL)**

**private Resume resume;**

**@OneToMany(mappedBy = "student")**

**@JsonBackReference**

**private Set<CoopStudent> coopstudent;**

**public Student() {**

**}**

**public Student(String \_username, String \_password) {**

**super(\_username, \_password);**

**}**

**public Resume getResume() {**

**return resume;**

**}**

**public void setResume(Resume resume) {**

**this.resume = resume;**

**}**

**public Set<CoopStudent> getCoopstudent() {**

**return coopstudent;**

**}**

**public void setCoopstudent(Set<CoopStudent> coopstudent) {**

**this.coopstudent = coopstudent;**

**}**

**}**

* **User POJO**

**package com.me.finalproject.pojo;**

**import javax.persistence.Column;**

**import javax.persistence.Entity;**

**import javax.persistence.GeneratedValue;**

**import javax.persistence.GenerationType;**

**import javax.persistence.Id;**

**import javax.persistence.Inheritance;**

**import javax.persistence.InheritanceType;**

**import javax.persistence.Table;**

**@Entity**

**@Table(name = "user\_table")**

**@Inheritance(strategy=InheritanceType.JOINED)**

**public class User{**

**@Id**

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

**@Column(name = "userId", unique = true, nullable = false)**

**private int uid;**

**private String username;**

**private String password;**

**private String lastname;**

**private String firstname;**

**private String email;**

**public User() {**

**}**

**public User(String \_username, String \_password) {**

**username = \_username;**

**password = \_password;**

**}**

**public int getUid() {**

**return uid;**

**}**

**public void setUid(int uid) {**

**this.uid = uid;**

**}**

**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;**

**}**

**public String getLastname() {**

**return lastname;**

**}**

**public void setLastname(String lastname) {**

**this.lastname = lastname;**

**}**

**public String getFirstname() {**

**return firstname;**

**}**

**public void setFirstname(String firstname) {**

**this.firstname = firstname;**

**}**

**public String getEmail() {**

**return email;**

**}**

**public void setEmail(String email) {**

**this.email = email;**

**}**

**@Override**

**public String toString() {**

**return firstname;**

**}**

**}**