Assignment # 4–Developing Spring Boot app with Micro-services and JPA.

Due Date: Week 14.

Purpose: By finishing this assignment you will practice to:

- Develop, code and test micro-services for given requirements.
- Implement Micro-services with Spring Boot and Spring Cloud.
- Implement Thymeleaf template instead of JSP files.
- Implement the JPA and validations in spring boot.

References: Read the lecture slides week 11 – 12 and lab exercises. This material provides the necessary information you need to complete the exercises.

Instructions and rules:

-This lab should be completed by every student **individually or in pair or as a group, maximum 3 students in a group with equal contribution.**

-You will have to demonstrate your solution in a scheduled lab session and submitting the project **through the assignment drop box on e-centennial**. You must name your Eclipse project according to the following rule:

Student Names_COMP303_AssignementNumber

Example: **John_Smith_COMP303_Assignment4**

Each file submitted in the solution should have student name, student and submission date in the top of the code file.

Comments may be necessary inside the functions or predicates but that the names of the functions and predicates and the comments you include to explain each are especially important.

Student must hand in the assignment to e-centennial drop box **with all the output / results screen shots or video to get the demonstration points. All the students must submit the solution into drop box and points will be given to students based on their contribution and commitment to complete this assignment.**

Description

Students are asked to develop micro-services in spring boot app to handle partial "Recruitment Agency Web App" job, organization and job category information. You may create few project like Discovery server, micro-service server and micro-service client or web to implement the micro-services or you can create only one project with several packages and configuration files to fulfill these requirements.

You should follow the below given instructions while you are working on this lab assignment.

a. The architecture of the micro-service is built with the following components:
   i. Entity class must be persistence and should include appropriate validations
   ii. Controllers for URL mapping. (@Controller)
   iii. Repositories and Services. (@Repository or @Service)
   iv. HTML files with thymeleaf templates
   v. application.properties file configuration
   vi. POM.xml configuration.
   vii. You are free to add any other files or configuration needed

b. Your app should produce and consume micro-services of partial "Recruitment Agency Web App" details as shown in the below given table. You should define entity classes for job, organization and job category with persistence using JPA implementation. Use MySql to create database name "RecruitmentDB" and with three tables like job, organization and job category and use appropriate data types

Job	Organization	Category
jobId	orgId	jobCatId
jobCode	orgName	catCode
jobName	address	catName
jobDesc	postalCode	catDesc
pubDate	phoneNo	
numVacancy	email	
	website	

c. Design UI pages using HTML files and use thymeleaf template instead of JSP files to implement web interface for job, organization and job category. To implement this task you use the same project or create different projects.

Assessment Rubrics:

Functionalities: Developing Spring micro-services with entities, services, repositories, controllers and html files with thymeleaf template, application.properties and set of appropriate dependency in POM.xml files	55 points
JPA implementation with MySQL and entity validations like required field, numeric values, ranges and date @ entity class (not html or javascript validation)	30 points
UI friendliness, use of CSS, and code standards.	5 points
Demonstration using screen shots or video	10 points
Total	**100 points**

Submission

All students must submit their solutions with screen shots or a small video to demonstrate their solution on or before the due date.

Academic honesty (Plagiarism and cheating)

All students must follow the academic honesty policies regarding Plagiarism and cheating on assignments, Quizzes or Tests. Centennial college's Academic Policy will be strictly enforced. To support academic honesty at Centennial College, all academic work submitted by students may be reviewed for authenticity and originality, with utilizing software tools.

For more details, please visit the Academic Honesty site on
https://www.centennialcollege.ca/mycentennial/your-support/academic-support/student-academic-advising/academic-honesty/