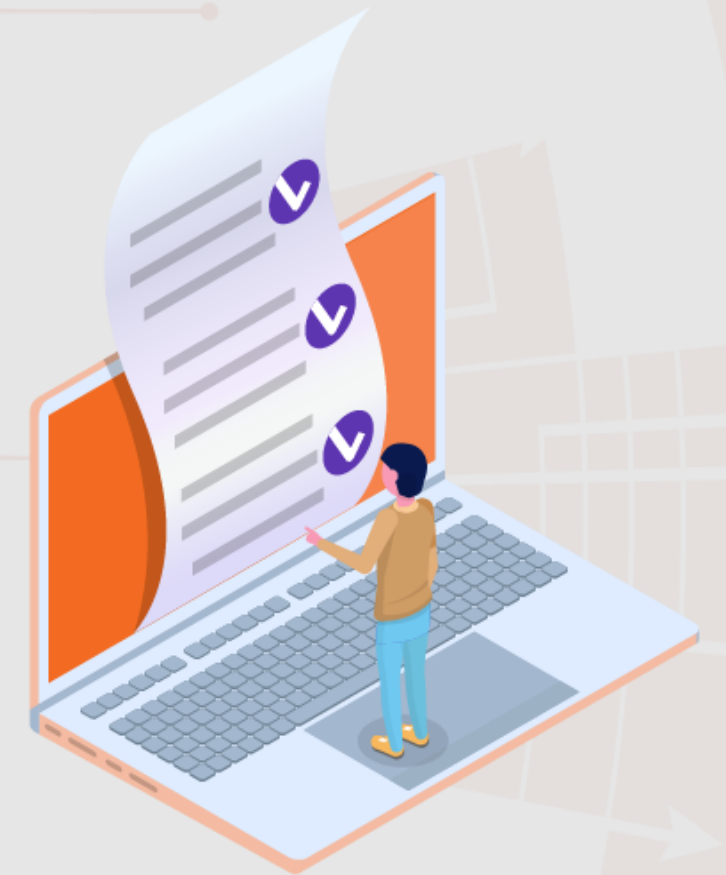


Backend And Database Development

Course-End Project

Objectives

To build a application to handle data of students learning Zumba. This application will help management the enrollment of students and in the correct batch and provide appropriate timings for their classes.

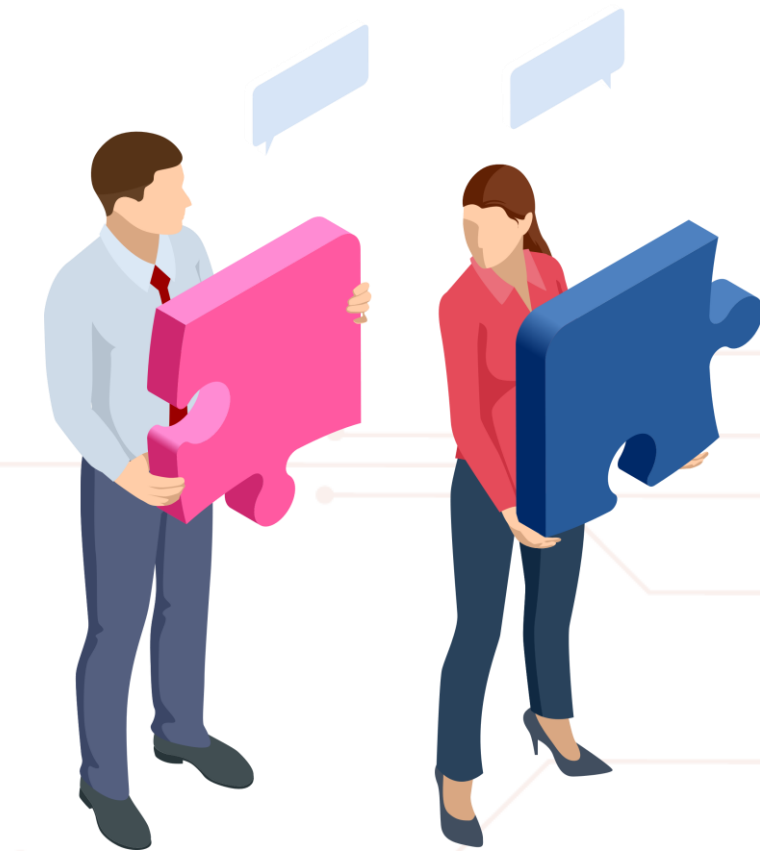


Prerequisites



- Java
- Servlets
- JSP
- Maven
- JDBC
- MySQL

Problem Statement and Motivation



Problem Statement:

This assignment is designed to help gain understanding of how to plan and develop the back end for a given problem. Further, to gain hands-on experience in designing Server Side Controller Structure with Servlets. Implementing the Database connections to perform CRUD operations

Real-World Scenario:

Rohit is a Zumba Instructor. He takes multiple sessions during the day for which he has divided his participants into batches running in morning hours and evening hours. In order to manage his participants, he needs a software solution to record the details of his participants and batches. Luckily his friend Mike runs a software company. Rohit has requested him to develop a backend solution to manage his participants and batches.

Industry Relevance



Skills used in the project and their usage in the industry are given below:

Backend:

Backend development helps in managing all the functionalities of an application.

Servlets and Maven:

Maven and Servlets work together to establish a modular development scheme for the application to ease the communication between different java classes.

JDBC:

It is one of the most popular library in Java that helps in simplifying the database communication and data transfer between database and Java.

JSP:

It eases the task of converting Java data or Object into HTML/CSS data.

Task (Activities)



1. Create a Dynamic Web Project in Eclipse and configure maven
2. Create a Java Classes for participants and batches
3. Create Servlets for participants and batches related communication
4. Create HTML Pages for CRUD operation related to batches and participants
5. Perform CRUD Operations database methods using JDBC
6. Create JSP Pages for query parameters
7. Build and Run the Project on Apache Tomcat web server
8. Package the project as a Jar file using Maven Package Goal

Project Reference



Task 1-4:

Servlets - Lesson 1

Task 5:

Servlets – Lesson 3

Task 6:

JSP – Lesson 1

Task 7 and 8:

Maven – Lesson 1

Submission Process



You will have to submit the project in 1 week.

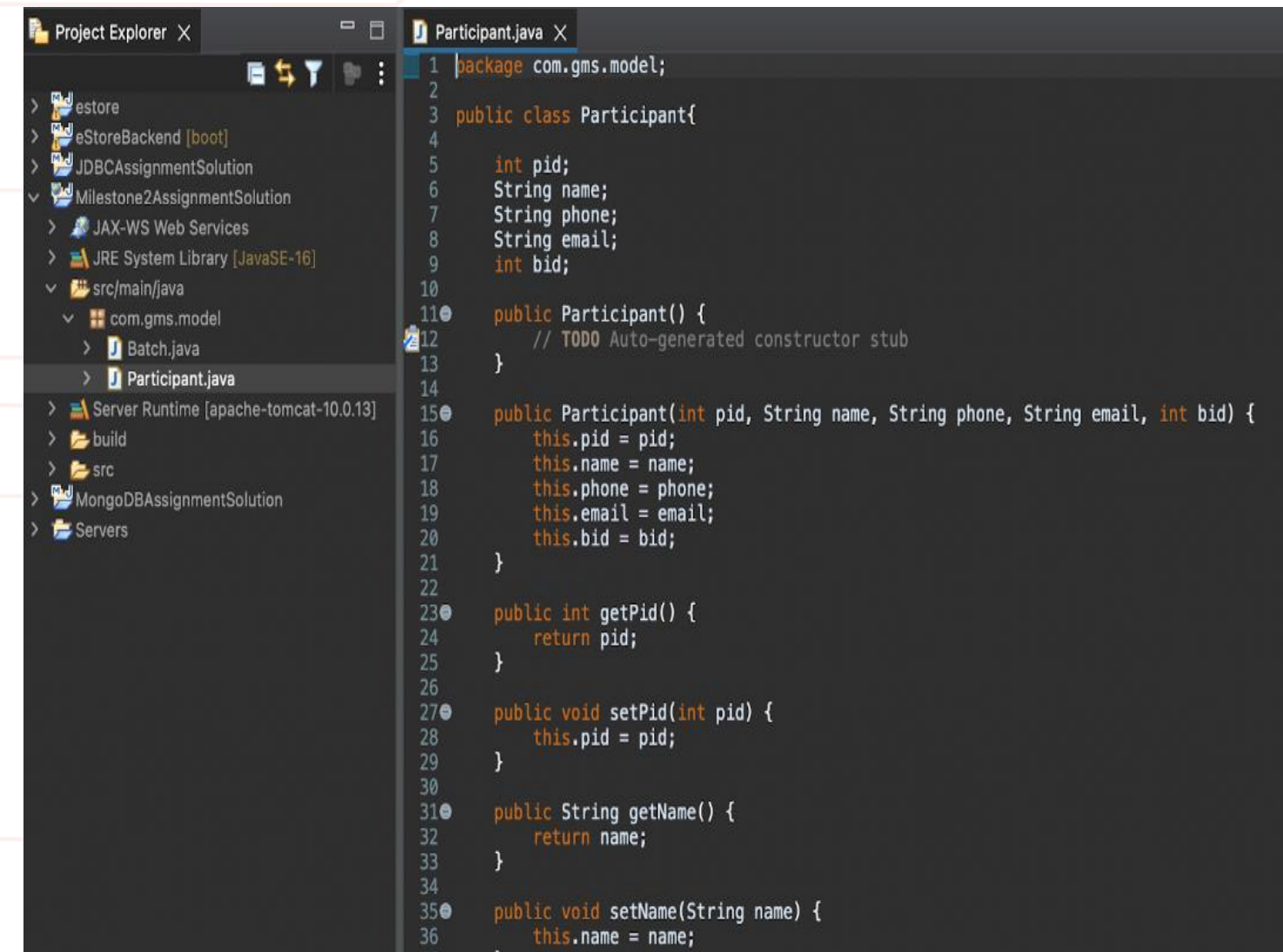
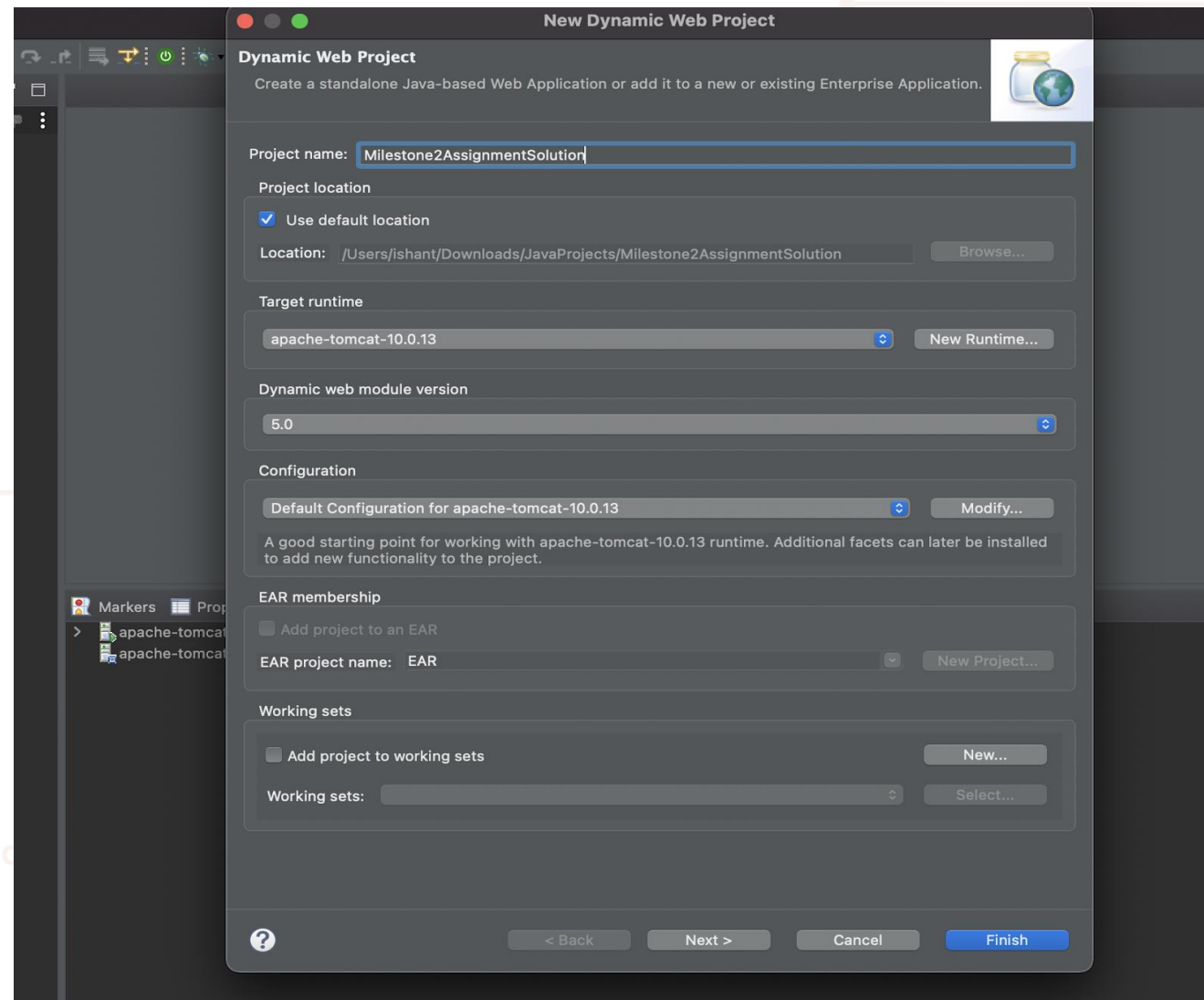
It is recommended to work on the integrated labs as they have all the required tools available

Project can be submitted from the assessment tab followed by clicking on the **Submit** button.

Provide the documents mentioned below:

- Source Code in zip
- Database scripts to replicate your database settings
- Screenshots of the outputs

Reference Outputs



Reference Outputs

```
index.html X
1 <!DOCTYPE html>
2 <html>
3 <head>
4 <meta charset="UTF-8">
5 <title>Gym Management Solution</title>
6
7 <style>
8 .center {
9   margin: auto;
10  width: 60%;
11  border: 3px solid #2222FF;
12  padding: 10px;
13 }
14 </style>
15
16 </head>
17 <body>
18
19 <div class="center">
20   <h3>Welcome to Gym Management Solution</h3>
21   <a href="add-batch.html"> Add Batch </a>
22   <br/>
23   <a href="add-participant.html"> Add Participant </a>
24   <br/>
25   <a href="update-batch.html"> Update Batch </a>
26   <br/>
27   <a href="update-participant.html"> Update Participant </a>
28   <br/>
29
30 </div>
31
32 </body>
33 </html>
```

```
add-participant.html X
1 <!DOCTYPE html>
2 <html>
3 <head>
4 <meta charset="UTF-8">
5 <title>Add Participant</title>
6 <style>
7 .center {
8   margin: auto;
9   width: 60%;
10  border: 3px solid #2222FF;
11  padding: 10px;
12 }
13 </style>
14 </head>
15 <body>
16 <div class="center">
17   <h3>Add new Participant</h3>
18   <form action="ParticipantController" method="post">
19     <label for="name">Full Name:</label><br>
20     <input type="text" id="name" name="name" placeholder="John Watson"><br>
21     <label for="phone">Phone:</label><br>
22     <input type="text" id="phone" name="phone" placeholder="+91 99999 11111"><br><br>
23     <label for="email">Email:</label><br>
24     <input type="text" id="email" name="email" placeholder="john@example.com"><br><br>
25     <label for="bid">Batch ID:</label><br>
26     <input type="text" id="bid" name="bid" placeholder="1"><br><br>
27     <input type="submit" value="Submit">
28   </form>
29 </div>
30 </body>
31 </html>
```

Thank you