UNIVERSITI MALAYSIA TERENGGANU

CSM3023 WEB BASED APPLICATION DEVELOPMENT (K1)

BACHELOR OF COMPUTER SCIENCE (MOBILE COMPUTING) WITH HONORS

LAB REPORT

LAB 2 - Servlet: Data Sharing and Database Management

SEMESTER II 2023/2024

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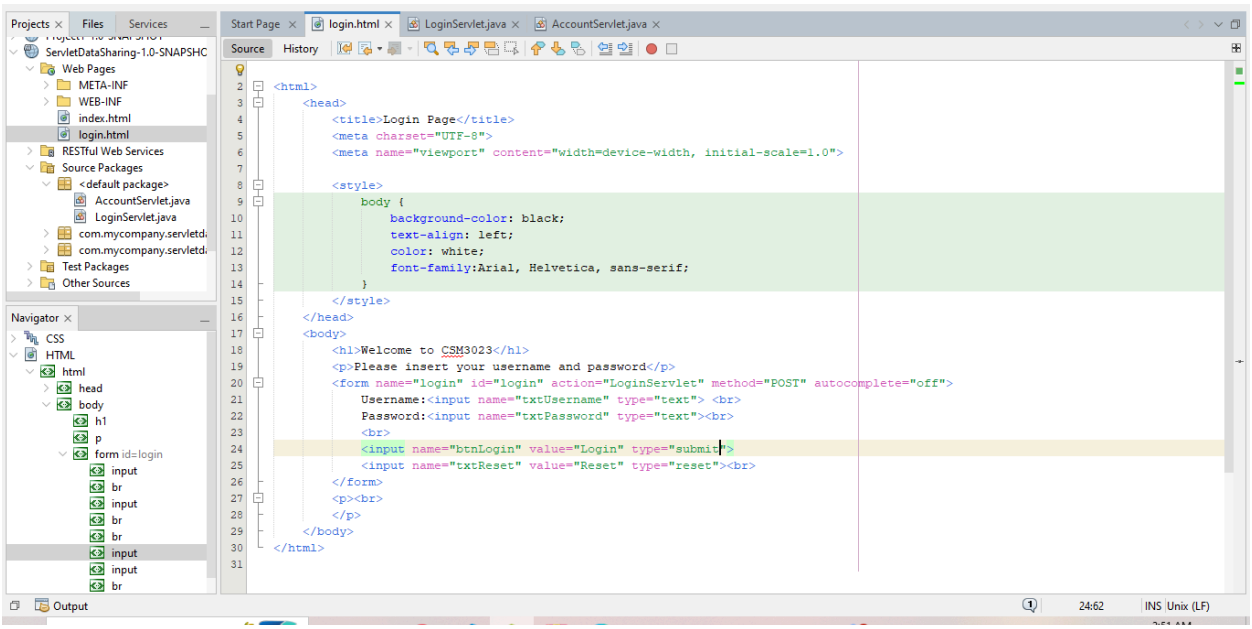
Task 1: Data Sharing in Servlet

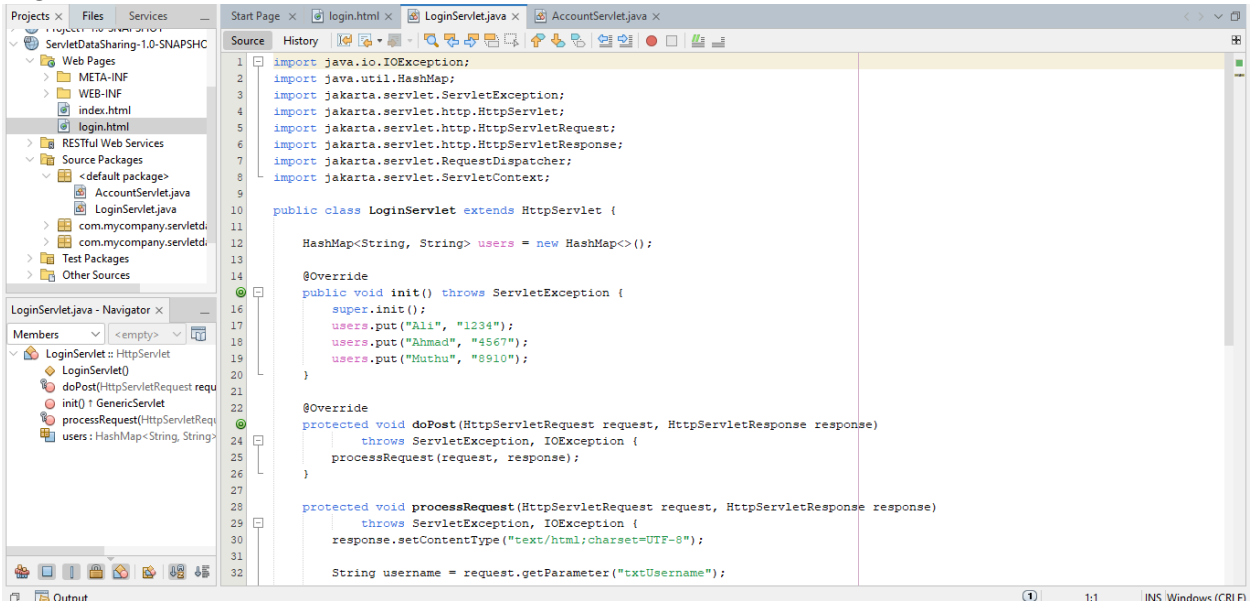
Objective: To use servlet for request forwarding and data sharing
Problem Description: Write a login form and a servlet to authenticate a user

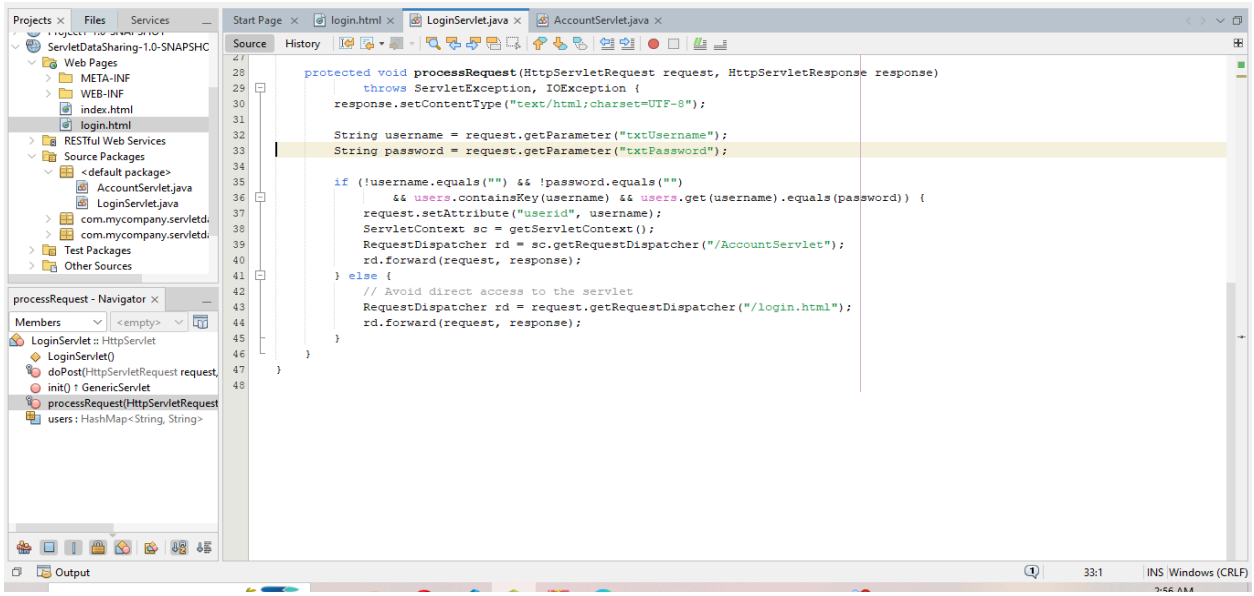
Code:

login .html

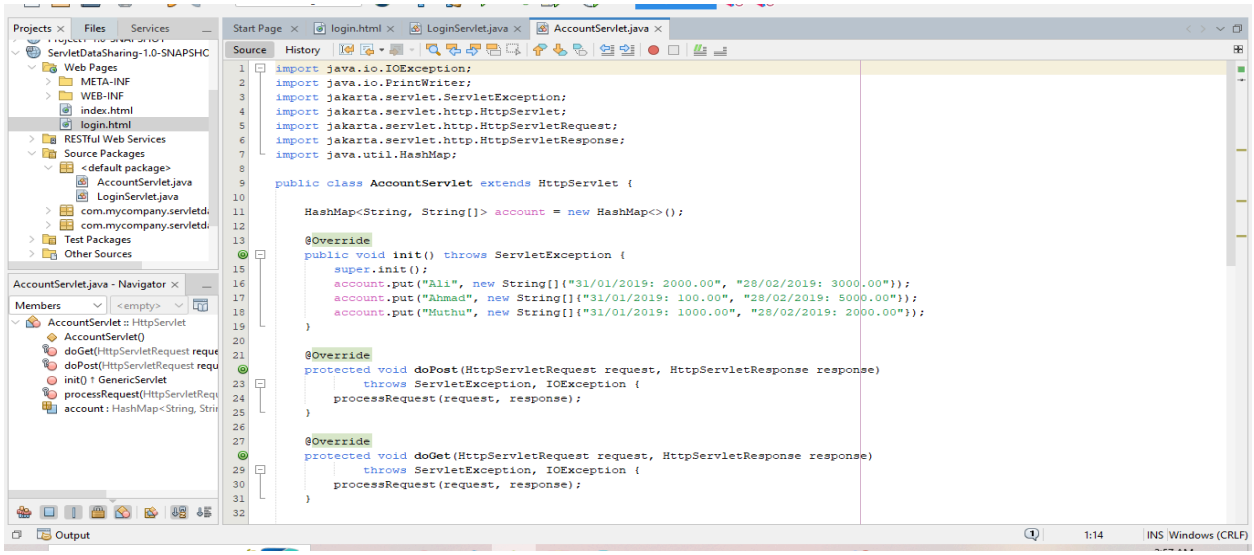


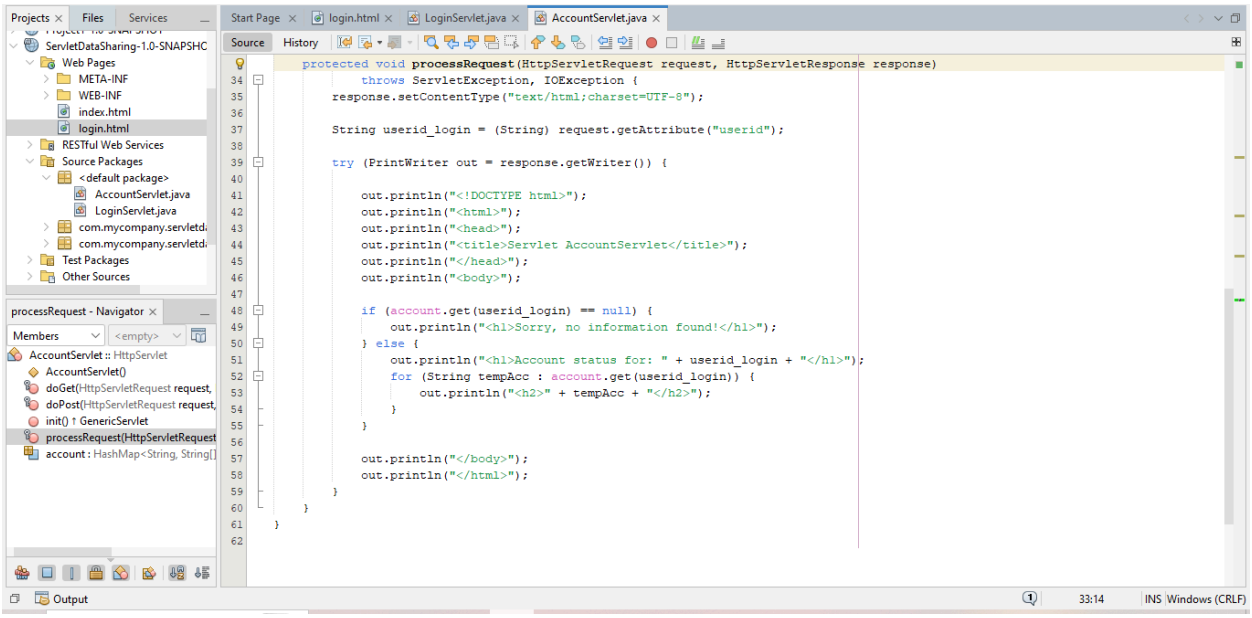
Login.servlet



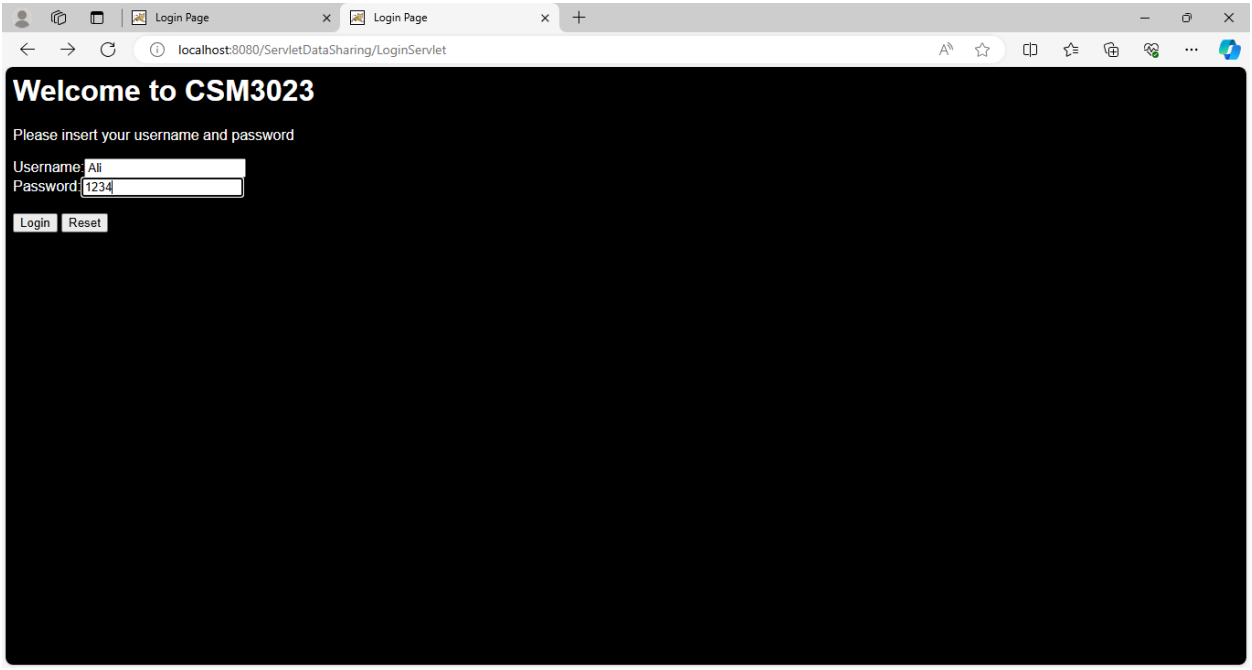


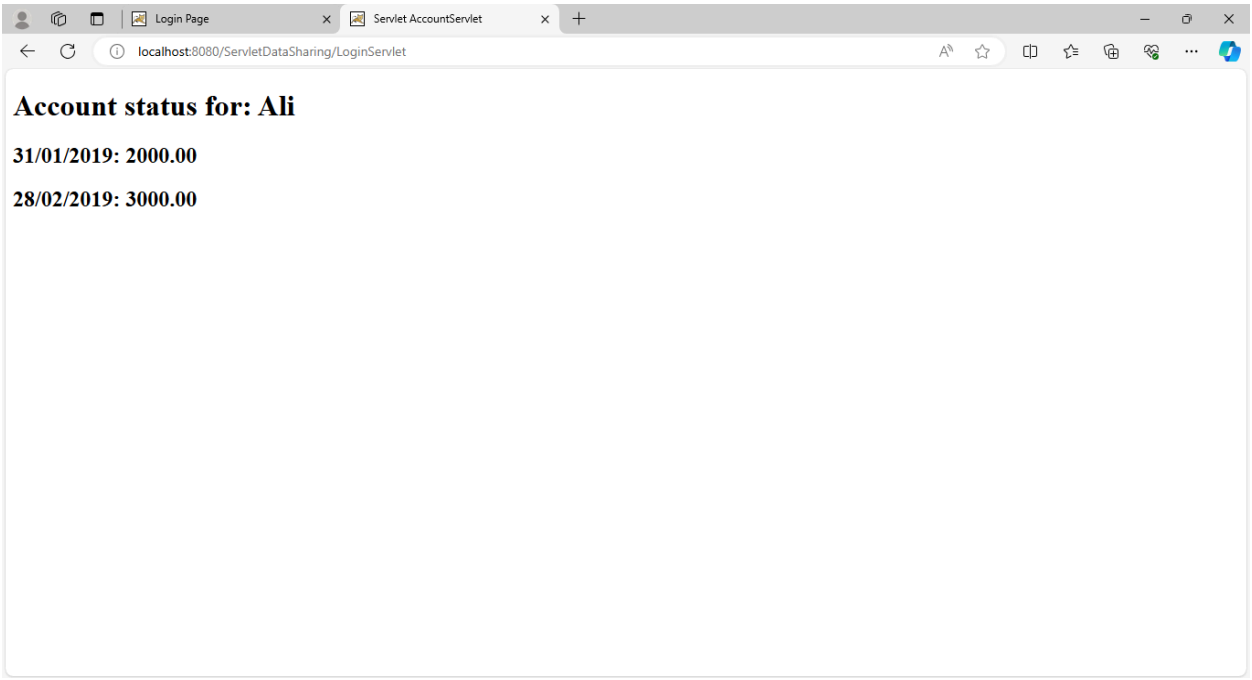
Account.servlet




Projects
Files
Services
ServletDataSharing-1.0-SNAPSHC
Web Pages
META-INF
WEB-INF
index.html
login.html
RESTful Web Services
Source Packages
<default package>
AccountServlet.java
LoginServlet.java
com.mycompany.servletd
com.mycompany.servletd
Test Packages
Other Sources
processRequest - Navigator
Members
<empty>
AccountServlet :: HttpServlet
AccountServlet()
doGet(HttpServletRequest request,
doPost(HttpServletRequest request,
init() ↑ GenericServlet
processRequest(HttpServletRequest
account : HashMap<String, String[]
Start Page
login.html
LoginServlet.java
AccountServlet.java
Source
History
protected void processRequest(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException {
response.setContentType("text/html;charset=UTF-8");
String userid_login = (String) request.getAttribute("userid");
try (PrintWriter out = response.getWriter()) {
out.println("<!DOCTYPE html>");
out.println("<html>");
out.println("<head>");
out.println("<title>Servlet AccountServlet</title>");
out.println("</head>");
out.println("<body>");
if (account.get(userid_login) == null) {
out.println("<h1>Sorry, no information found!</h1>");
} else {
out.println("<h1>Account status for: " + userid_login + "</h1>");
for (String tempAcc : account.get(userid_login)) {
out.println("<h2>" + tempAcc + "</h2>");
}
}
out.println("</body>");
out.println("</html>");
}
}
}
Output
33:14
INS
Windows (CRLF)

Output:


Login Page
Login Page
localhost:8080/ServletDataSharing/LoginServlet
Welcome to CSM3023
Please insert your username and password
Username: Ali
Password: 1234
Login
Reset



Reflection

1. What have you you learnt from this exercise?

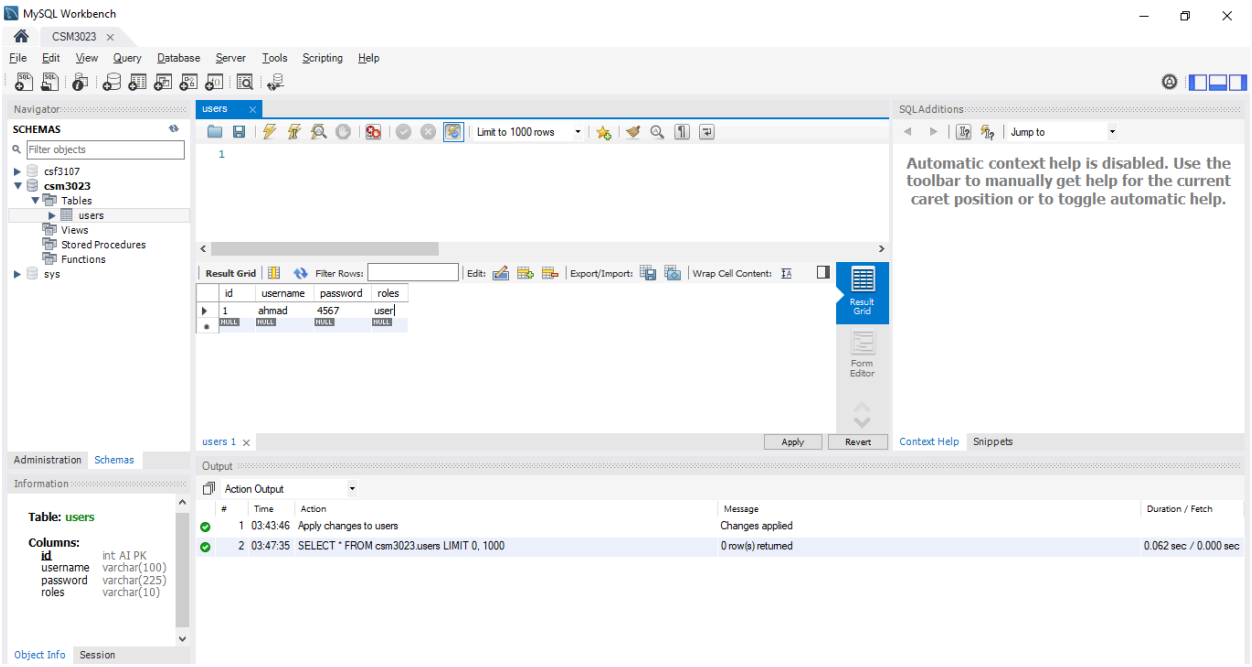
On how to use servlet to get the data

2. What are the common methods used in Java Servlet?

doPost(), doGet()

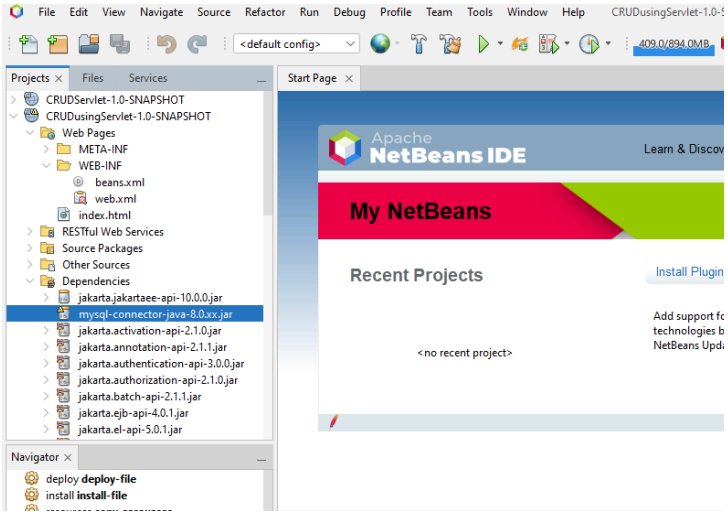
Task 2: Creating A Table in MySQL Database

Objective: To create a MySQL table to store user credentials
Problem Description: Prepare a user table to be used in Web Application



Task 3: Setting the Environment of Web Application for Database Connection

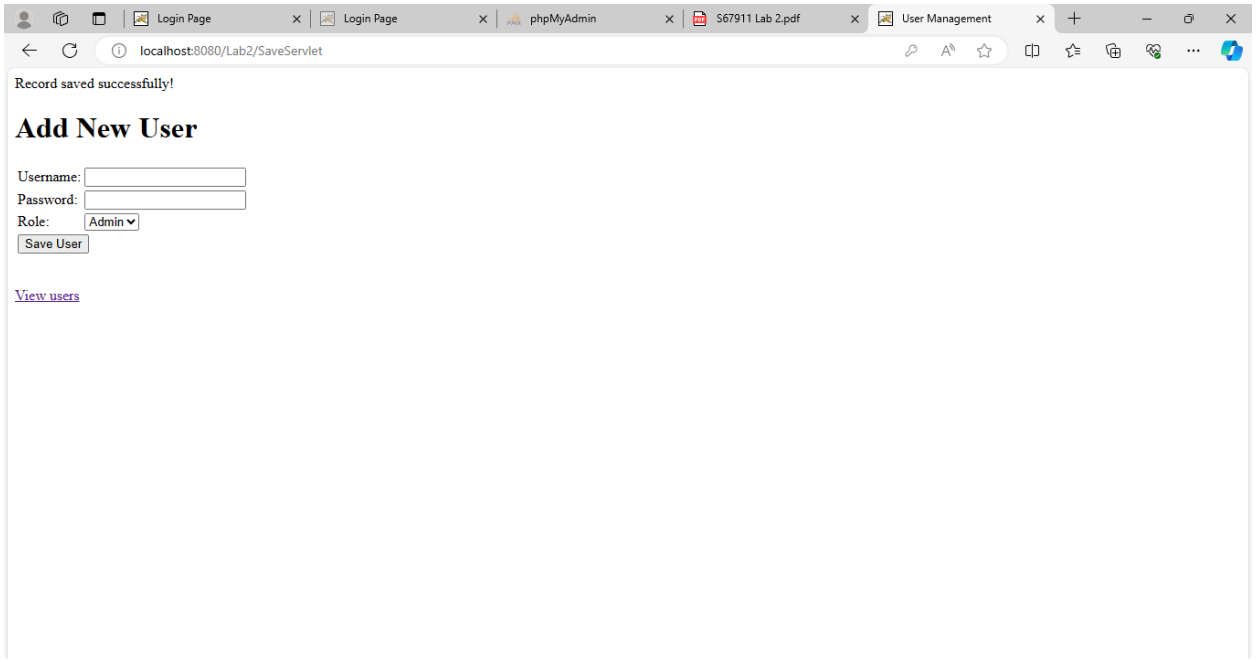
Objective: To set up a proper environment for integrating web application to the database
Problem Description: Import MySQL JDBC Library to an existing project

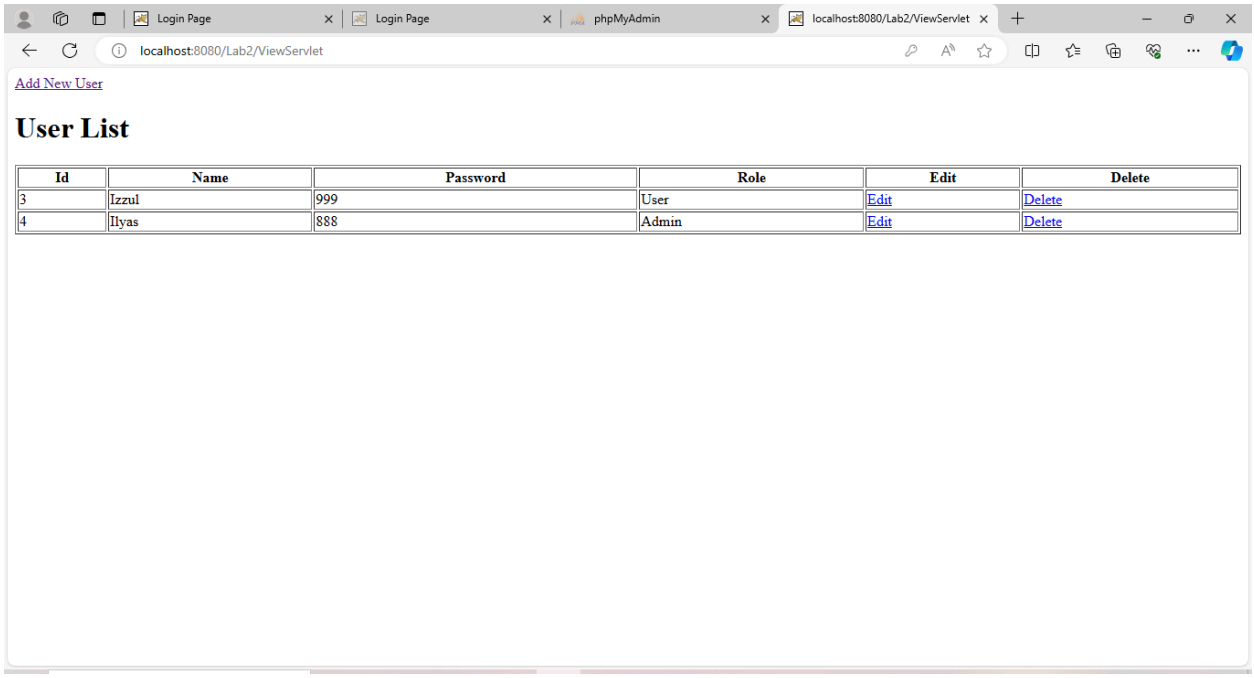


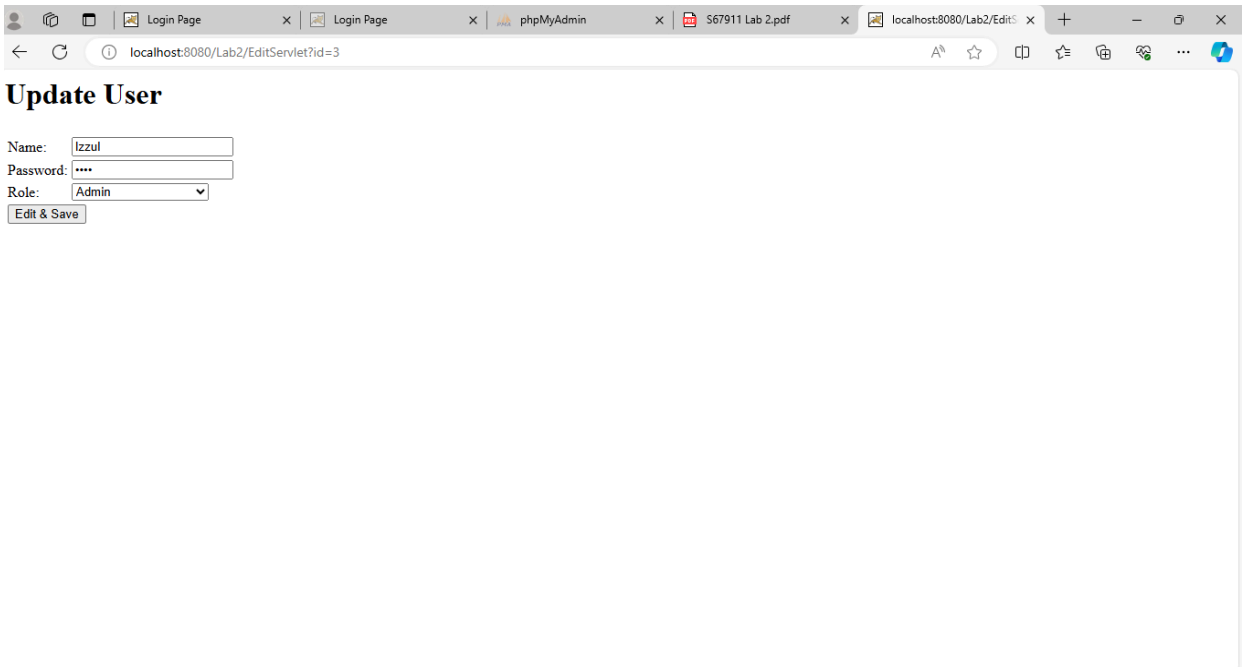
Task 4: Using Servlets for Database CRUD Operations

Objective: To program multiple servlets for manipulating the database
Problem Description: Program five different servlets to handle database operations such as insert, update and delete.

i. SaveServlet.java: to save data into the database
ii. ViewServlet.java: to view data retrieved from database
iii. EditServlet.java & EditServlet2.java: to edit existing data
iv. DeleteServlet.java: to delete existing data Apart from the servlets, we are going to develop two custom Java class know as JavaBeans and Data Access Object (DAO)




Login Page
Login Page
phpMyAdmin
localhost:8080/Lab2/ViewServlet
localhost:8080/Lab2/ViewServlet
Add New User
User List
Id
Name
Password
Role
Edit
Delete
3
Izzul
999
User
Edit
Delete
4
Ilyas
888
Admin
Edit
Delete


Login Page
Login Page
phpMyAdmin
S67911 Lab 2.pdf
localhost:8080/Lab2/EditS
localhost:8080/Lab2/EditServlet?id=3
Update User
Name:
Izzul
Password:
Role:
Admin
Edit & Save

Reflections:

1. What is the name of the Java Library that you need to import before coding the web application with database operations?

JDBC(Java Database Connectivity)

2. Which folder keeps the web.xml file? Copy the contents of the file and explain in brief the tags included such as
<servlet-name><servlet-class><servlet-mapping>. etc.

<servlet-name> specifies a unique name for the servlet configuration.
<servlet-class> specifies the fully qualified class name of the servlet implementation.
<servlet-mapping> maps a servlet to a URL pattern. It defines the URLs that invoke the servlet.
<url-pattern>specifies the URL pattern to which the servlet is mapped.

3. Define the usage of Data Access Object (DAO) servlet. How it ease the business process in your servlet-based web application?

A Data Access Object (DAO) servlet is a design pattern used to separate the data access logic from the business logic of a servlet-based web application. The DAO pattern involves creating a separate class or set of classes responsible for interacting with the database, querying data, and performing database operations. By using a DAO servlet, the business logic in servlets can focus on handling user requests, processing data, and generating responses, while the data access logic is encapsulated within the DAO classes, improving the overall organization and clarity of the application architecture.