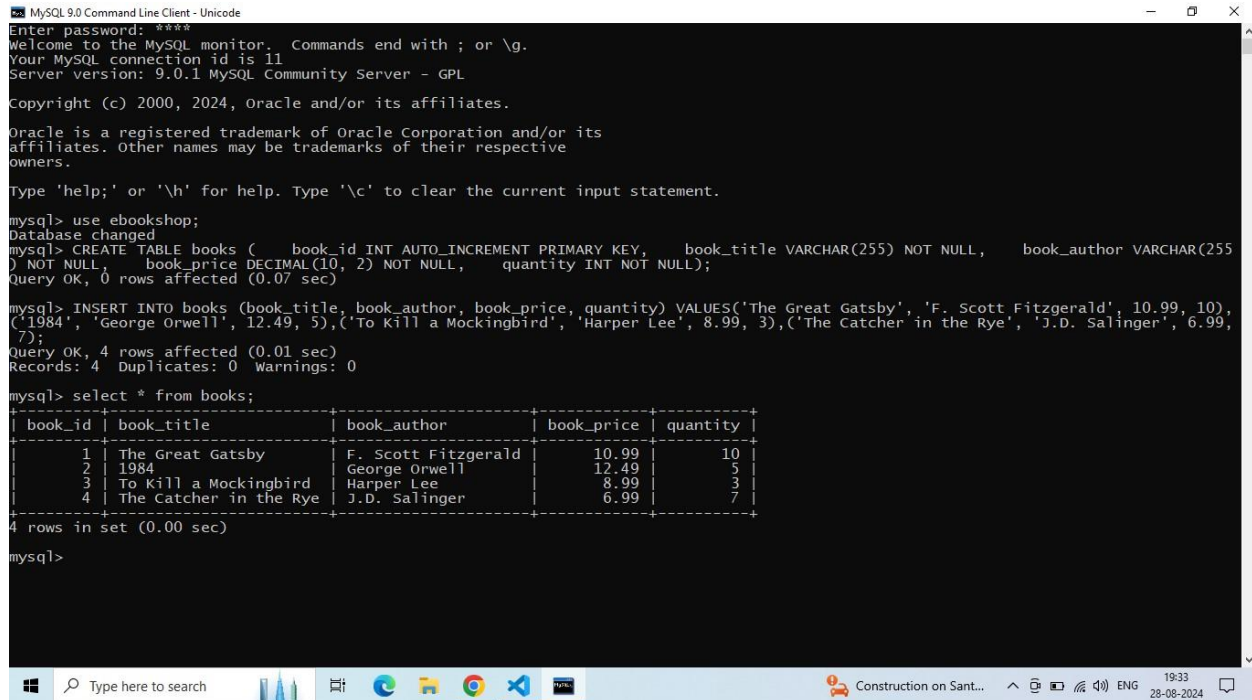


## Assignment 4

4. Implement the sample program demonstrating the use of Servlet. e.g., Create a database table ebookshop (book\_id, book\_title, book\_author, book\_price, quantity) using database like Oracle/MySQL etc. and display (use SQL select query) the table content using servlet.

### 1. Create the “ebookshop” database and “books” table in MySQL.



```
MySQL 9.0 Command Line Client - Unicode
Enter password: *****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 11
Server version: 9.0.1 MySQL Community Server - GPL

Copyright (c) 2000, 2024, Oracle and/or its affiliates.

Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> use ebookshop;
Database changed
mysql> CREATE TABLE books (  book_id INT AUTO_INCREMENT PRIMARY KEY,  book_title VARCHAR(255) NOT NULL,  book_author VARCHAR(255) NOT NULL,  book_price DECIMAL(10, 2) NOT NULL,  quantity INT NOT NULL);
Query OK, 0 rows affected (0.07 sec)

mysql> INSERT INTO books (book_title, book_author, book_price, quantity) VALUES('The Great Gatsby', 'F. Scott Fitzgerald', 10.99, 10), ('1984', 'George Orwell', 12.49, 5), ('To Kill a Mockingbird', 'Harper Lee', 8.99, 3), ('The Catcher in the Rye', 'J.D. Salinger', 6.99, 7);
Query OK, 4 rows affected (0.01 sec)
Records: 4  Duplicates: 0  Warnings: 0

mysql> select * from books;
+----+-----+-----+-----+-----+
| book_id | book_title | book_author | book_price | quantity |
+----+-----+-----+-----+-----+
| 1 | The Great Gatsby | F. Scott Fitzgerald | 10.99 | 10 |
| 2 | 1984 | George Orwell | 12.49 | 5 |
| 3 | To Kill a Mockingbird | Harper Lee | 8.99 | 3 |
| 4 | The Catcher in the Rye | J.D. Salinger | 6.99 | 7 |
+----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql>
```

### 2. Steps to Create and Run the Servlet:

- Open Eclipse and select **File > New > Dynamic Web Project**.
- Name your project.
- Select the **target runtime** (e.g., Apache Tomcat).
- Click **Finish**.
- Right-click on the src/main/java folder in your project.
- Select **New > Servlet**.
- Name the class.
- Click **Next**, then **Finish**.
- In web-inf create web.xml file.

### 3. SERVLET CODE:

```
import java.io.IOException;
import java.io.PrintWriter;
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.ResultSet;
import java.sql.Statement;
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

@WebServlet("/BookServlet")
public class BookServlet extends HttpServlet {
    private static final long serialVersionUID = 1L;

    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

        // Database connection settings
        String jdbcUrl = "jdbc:mysql://localhost:3306/ebookshop";
        String jdbcUser = "username"; // Update with your MySQL username
        String jdbcPassword = "password"; // Update with your MySQL password

        try {
            // Load MySQL JDBC driver
            Class.forName("com.mysql.cj.jdbc.Driver");

            // Connect to the database
            Connection connection = DriverManager.getConnection(jdbcUrl, jdbcUser,
            jdbcPassword);
            Statement statement = connection.createStatement();

            // Query the ebookshop table
            String query = "SELECT * FROM books";
            ResultSet resultSet = statement.executeQuery(query);
            // Display the table content
            out.println("<html><body>");
            out.println("<h2>Bookshop Inventory</h2>");
        }
    }
}
```

```

        out.println("<table border='1'>");

        out.println("<tr><th>ID</th><th>Title</th><th>Author</th><th>Price</th><th>Q
quantity</th></tr>");
        while (resultSet.next()) {
            out.println("<tr>");
            out.println("<td>" + resultSet.getInt("book_id") + "</td>");
            out.println("<td>" + resultSet.getString("book_title") + "</td>");
            out.println("<td>" + resultSet.getString("book_author") + "</td>");
            out.println("<td>" + resultSet.getDouble("book_price") + "</td>");
            out.println("<td>" + resultSet.getInt("quantity") + "</td>");
            out.println("</tr>");
        }
        out.println("</table>");
        out.println("</body></html>");
        // Close resources
        resultSet.close();
        statement.close();
        connection.close();
    } catch (Exception e) {
        e.printStackTrace();
        out.println("<p>Error: " + e.getMessage() + "</p>");
    }
}
}

```

#### 4. WEB.XML CODE:

```

<?xml version="1.0" encoding="UTF-8"?> <web-app
xmlns="http://xmlns.jcp.org/xml/ns/javaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee
http://xmlns.jcp.org/xml/ns/javaee/web-app_3_1.xsd"
version="3.1">

```

```

    <servlet>
        <servlet-name>BookServlet</servlet-name>
        <servlet-class>BookServlet</servlet-class>
    </servlet>

```

```

    <servlet-mapping>
        <servlet-name>BookServlet</servlet-name>
        <url-pattern>/BookServlet</url-pattern>
    </servlet-mapping>

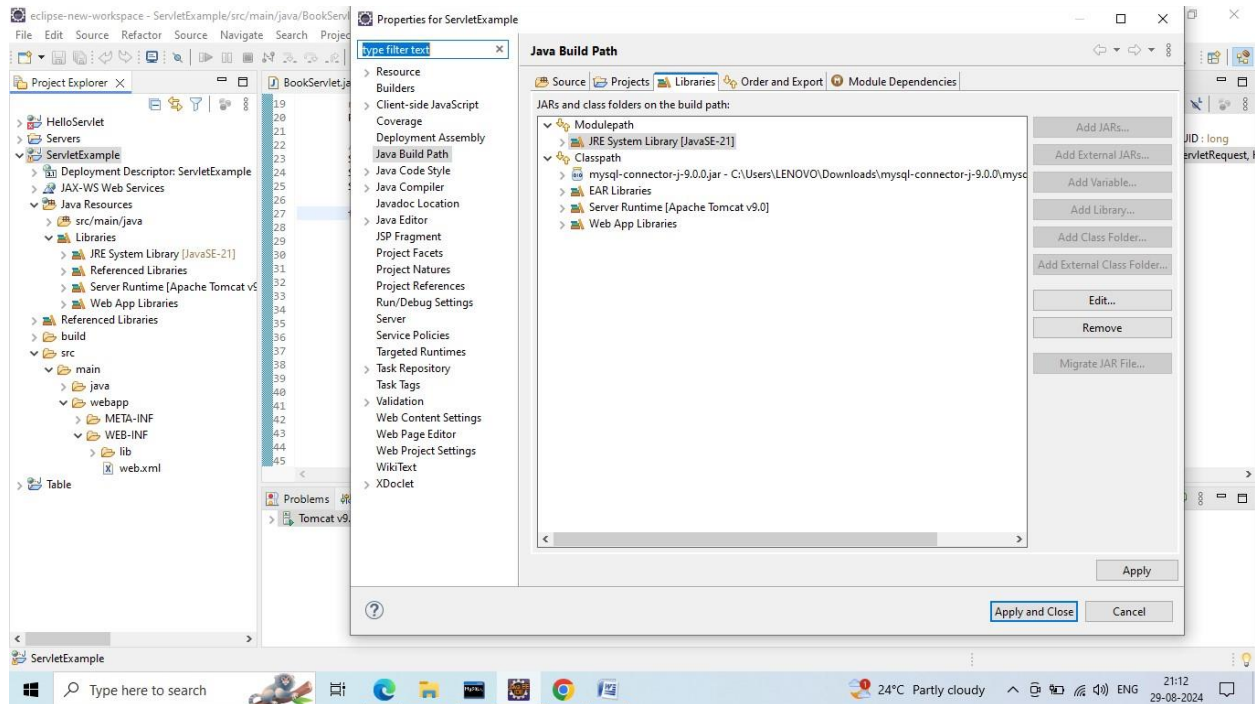
```

```

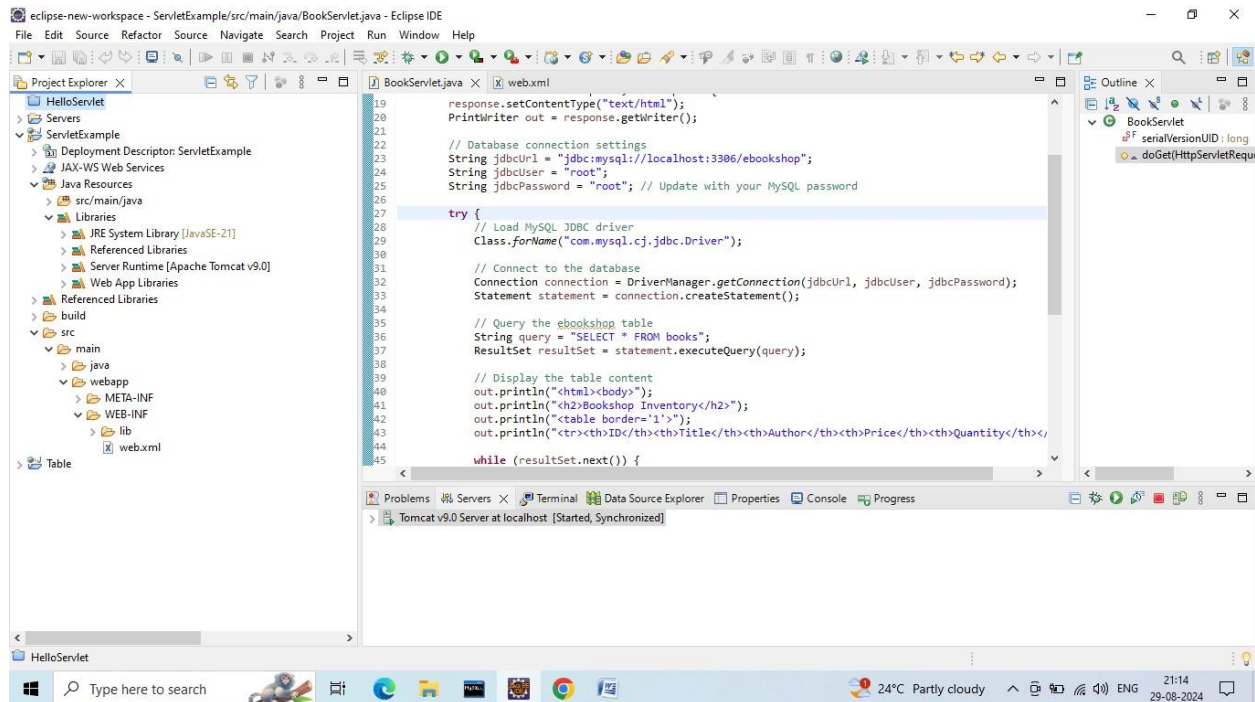
</web-app>

```

## 5. MySQL JDBC connector file in WEB-INF -> LIB FOLDER and JRE SYSTEM LIBRARY FOLDER.



## 6. File directory path for reference:



# 7. OUTPUT OF TABLE FROM DATABASE TO BROWSER.

localhost:8082/ServletExample/B... x

localhost:8082/ServletExample/B... x

+

←

↺

🔍

localhost:8082/ServletExample/BookServlet

🔍

☆

📄

🔖

🔗

🌐

⋮

🔗

Bookshop Inventory

ID	Title	Author	Price	Quantity
1	The Great Gatsby	F. Scott Fitzgerald	10.99	10
2	1984	George Orwell	12.49	5
3	To Kill a Mockingbird	Harper Lee	8.99	3
4	The Catcher in the Rye	J.D. Salinger	6.99	7

Windows

Type here to search

🎮

🌐

📁

📺

📺

📺

📺

🚧

Closed road on Maha...

^

📶

🔊

ENG

20:50

29-08-2024

🗨