SOEN 387 ASSIGNMENT 2 REPORT

Report Presented to
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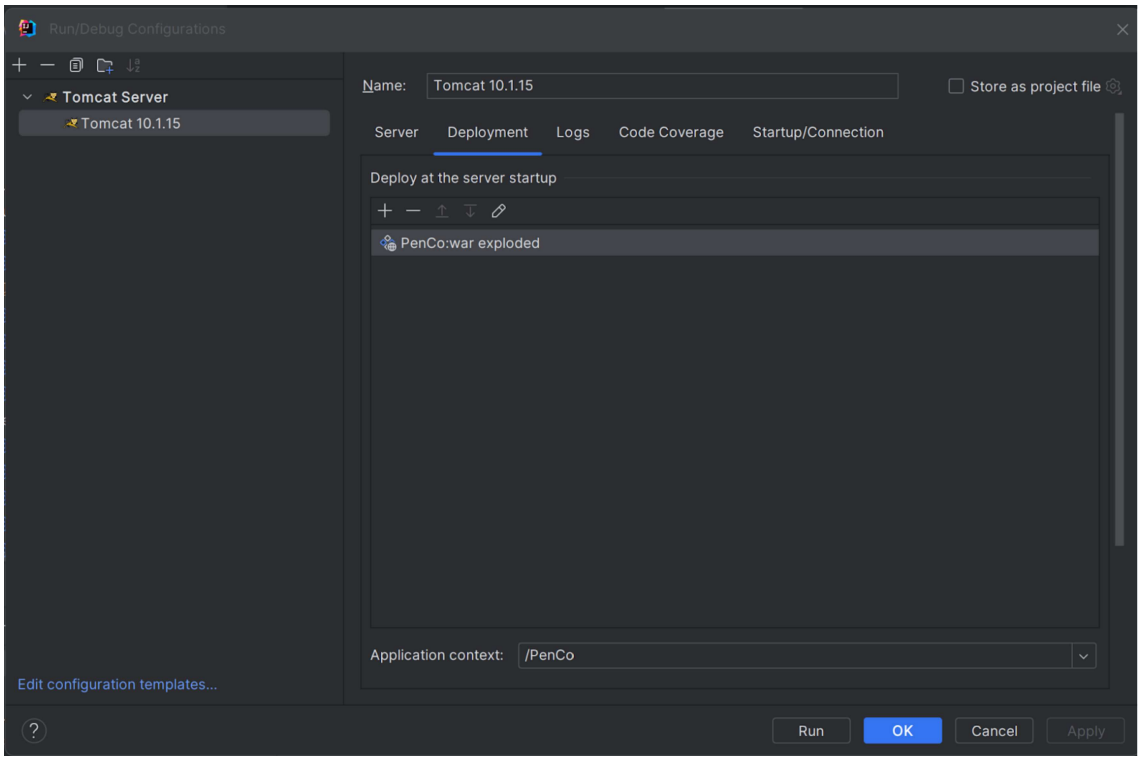
DEVELOPMENT ENVIRONMENT USED AND HOW TO COMPILE APPLICATION

To work on this assignment, we used IntelliJ as an IDE. With Apache TomCat 10, we were able to build our project using Jakarta EE. Our systems had the latest Java JDK 21 which is also needed for development.

In order to run the application, one must first clone the code of our repository onto their local machine, and open the project in the IDE of their choice.

Once done, make sure that TomCat and all other dependencies of the project are installed and functioning. All Maven build files are available on the repository and will be imported accordingly. It is also important to ensure that the TomCat server configurations have the .war exploded file set up for deployment, just as seen in the picture below:

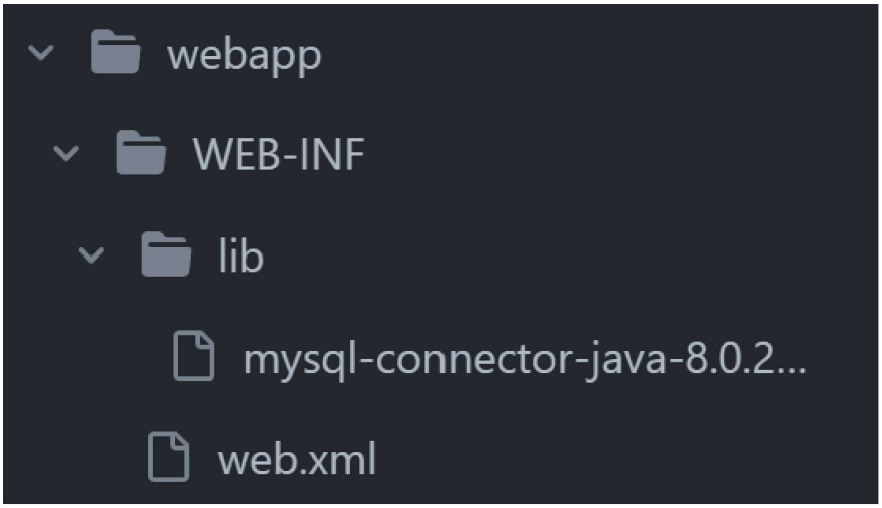


The war file can be found in the main project folder, it is named **PenCo-1.0-SNAPSHOT.war**

This assignment uses a MySQL database in order to display its data. The database was set up on Microsoft Azure's SQL services and is currently running for grading purposes.

The connectivity to the database will be explained in a later section of the report.

Moreover, to use JDBC in our application, the appropriate .jar file has been added to the project build. It can be found among the external libraries as well as in the src file, under webapp/WEB-INF/lib:



LOGIN CREDENTIALS

Staff login:

-username: staff

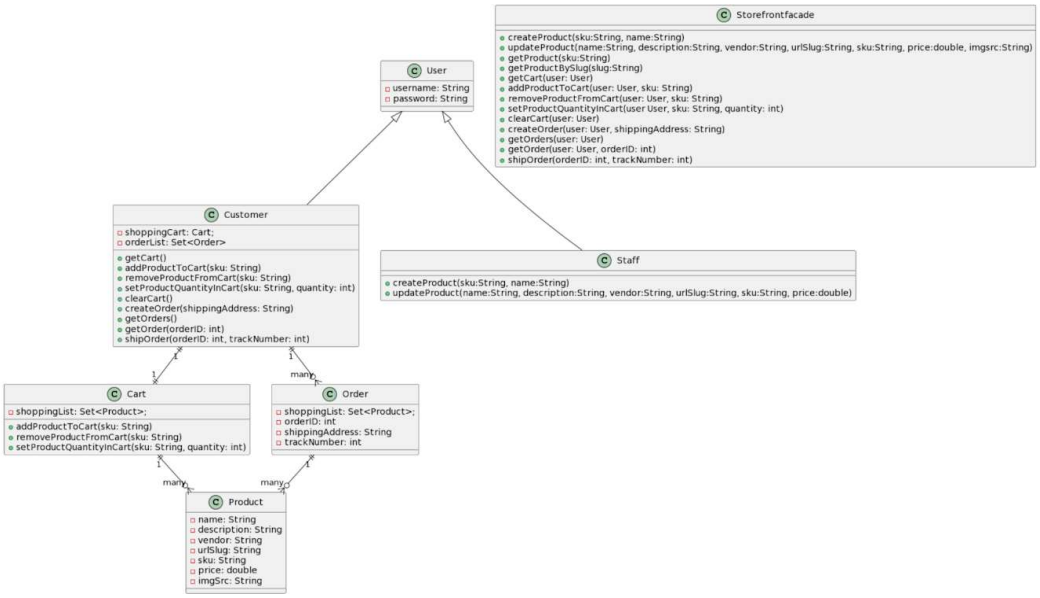
-password: password

User login:

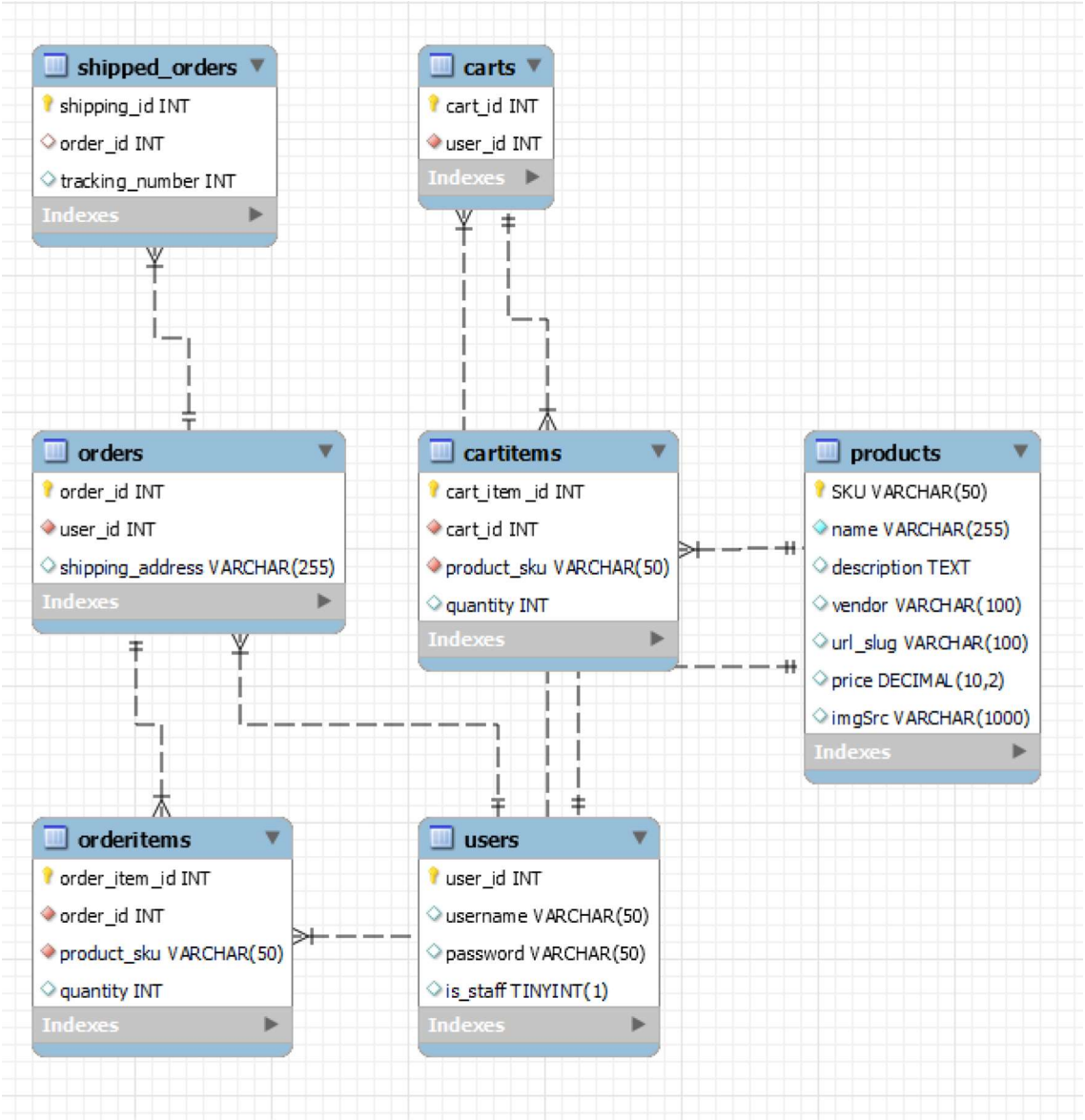
-username: user

-password: password

UML DIAGRAM

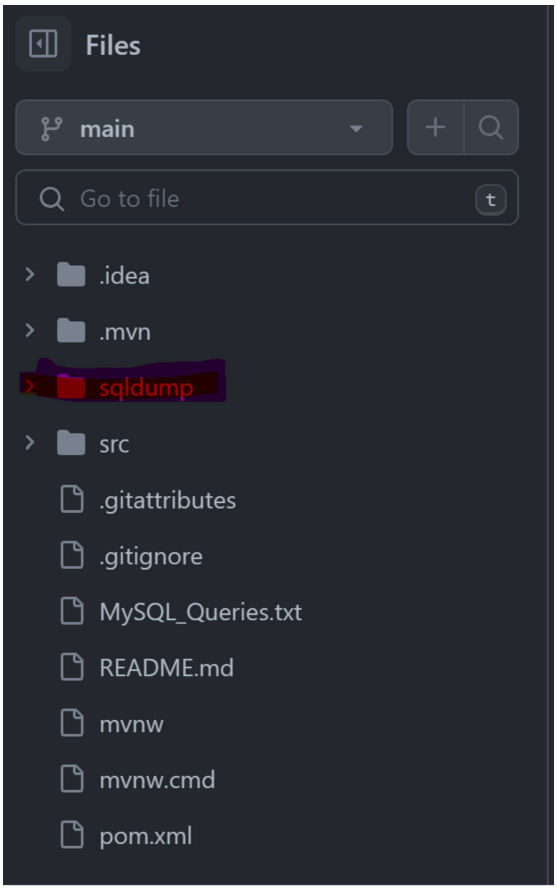

Storefrontfacade
createProduct(sku:String, name:String)
updateProduct(name:String, description:String, vendor:String, urlSlug:String, sku:String, price:double, imgsrc:String)
getProduct(sku:String)
getProductBySlug(slug:String)
getCart(user: User)
addProductToCart(user: User, sku: String)
removeProductFromCart(user: User, sku: String)
setProductQuantityInCart(user User, sku: String, quantity: int)
clearCart(user: User)
createOrder(user: User, shippingAddress: String)
getOrders(user: User)
getOrder(user: User, orderID: int)
shipOrder(orderID: int, trackNumber: int)
User
username: String
password: String
Customer
shoppingCart: Cart;
orderList: Set<Order>
getCart()
addProductToCart(sku: String)
removeProductFromCart(sku: String)
setProductQuantityInCart(sku: String, quantity: int)
clearCart()
createOrder(shippingAddress: String)
getOrders()
getOrder(orderID: int)
shipOrder(orderID: int, trackNumber: int)
Staff
createProduct(sku:String, name:String)
updateProduct(name:String, description:String, vendor:String, urlSlug:String, sku:String, price:double)
1
1
many
1
Cart
shoppingList: Set<Product>;
addProductToCart(sku: String)
removeProductFromCart(sku: String)
setProductQuantityInCart(sku: String, quantity: int)
Order
shoppingList: Set<Product>;
orderID: int
shippingAddress: String
trackNumber: int
1
many
many
1
Product
name: String
description: String
vendor: String
urlSlug: String
sku: String
price: double
imgSrc: String

ER DIAGRAM



SQL DUMP

The sqldump can be found in the file with the same name in the project folder.



DATABASE CONNECTIVITY

The application uses the latest version of mySQL with a database connected to Microsoft Azure SQL Services. To simplify our application, I wrote a SQLConnector class which creates a connection to the database instantly.

```java
public class SQLConnector {
     public Connection myDbConn;

     public SQLConnector() {

         try{
             Class.forName("com.mysql.cj.jdbc.Driver");
         }catch(ClassNotFoundException e){
             System.out.print("JDBC NOT FOUNDDD");
         }

         String url = "jdbc:mysql://penco.mysql.database.azure.com:3306/penco?useSSL=true";
         String username = "cuties387";
         String password = "Soen387!";

         try {
             myDbConn = DriverManager.getConnection(url, username, password);
         } catch (SQLException ex) {
             throw new RuntimeException(ex);
         }
     }
```

Here is the username and password of our database.

hostname=penco.mysql.database.azure.com
username=cuties387
password=Soen387!
ssl-mode=require

For ease of grading, SSL does not need to be implemented as there are no firewalls blocking unknown IP Addresses. This breach of security will be removed once the assignment is graded.

COMMIT HISTORY

The commit history of our project can be found on the public repository of the assignment here on this page.

Insights on contributors can be found here.