*Assignment 3-4*

*Instructor: Faisal Khan*

|  |  |  |
| --- | --- | --- |
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1-Use Documentation Comments where needed and use Javadoc to create HTML files for documentation.

2-In your project src folder add this word document with all your group members names and paste the screen shots of your output after each question.

3-Right Click on your Project Folder in Eclipse, Copy Option is available. Create a copy of the Project and upload the zipped folder using Moodle.

Create a web based application using JSPs & Servlets

With Controller Servlet and BootStrap library, based on MVC design pattern. Your web application should maintain

A Shipping Company Client Records. You can use a model class Clients with fields like.

ClientID,Name,Contact,ItemShipped,Date\_Recived,Date\_Shipped.You should be able to perform all these CRUD Operations.

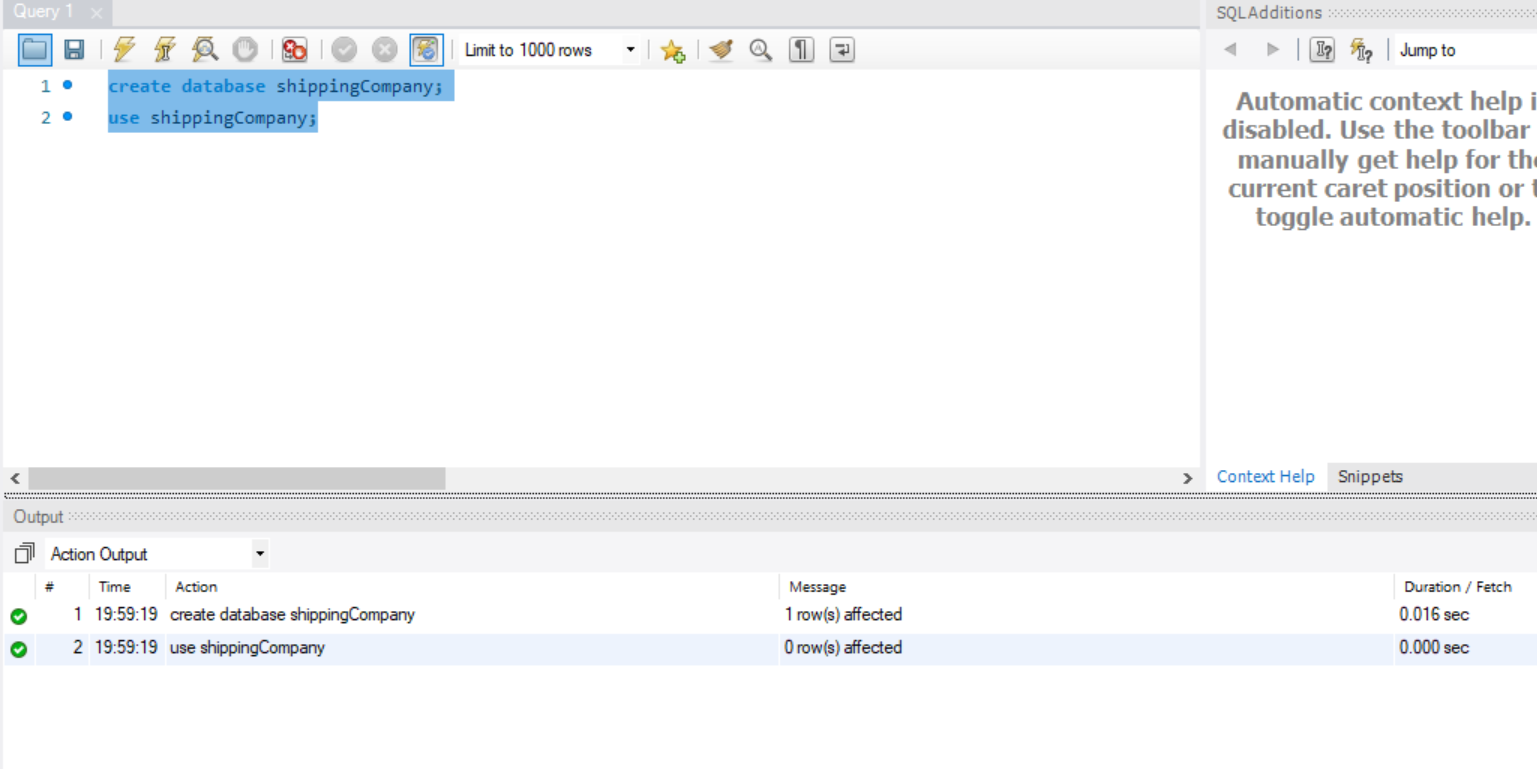
a)Create a Database ShippingRecords for your application.

Create a table named clients in this database.

Insert 5 to 6 Records in this table. 10

create database shippingCompany;

use shippingCompany;



CREATE TABLE `shippingcompany`.`clients` (

`clientID` INT NOT NULL,

`name` VARCHAR(45) NULL,

`contact` VARCHAR(45) NULL,

`itemShipped` VARCHAR(45) NULL,

`dateShipped` VARCHAR(45) NULL,

`dateReceived` VARCHAR(45) NULL);

insert into clients (clientID,name,contact, itemShipped, dateShipped ,dateReceived)

values(1,"sumanth","1234567890","Tables","2020-12-12","2021-01-01");

insert into clients (clientID,name,contact, itemShipped, dateShipped ,dateReceived)

values(2,"Arya","9809867890","Frames","2020-12-01","2021-01-11");

insert into clients (clientID,name,contact, itemShipped, dateShipped ,dateReceived)

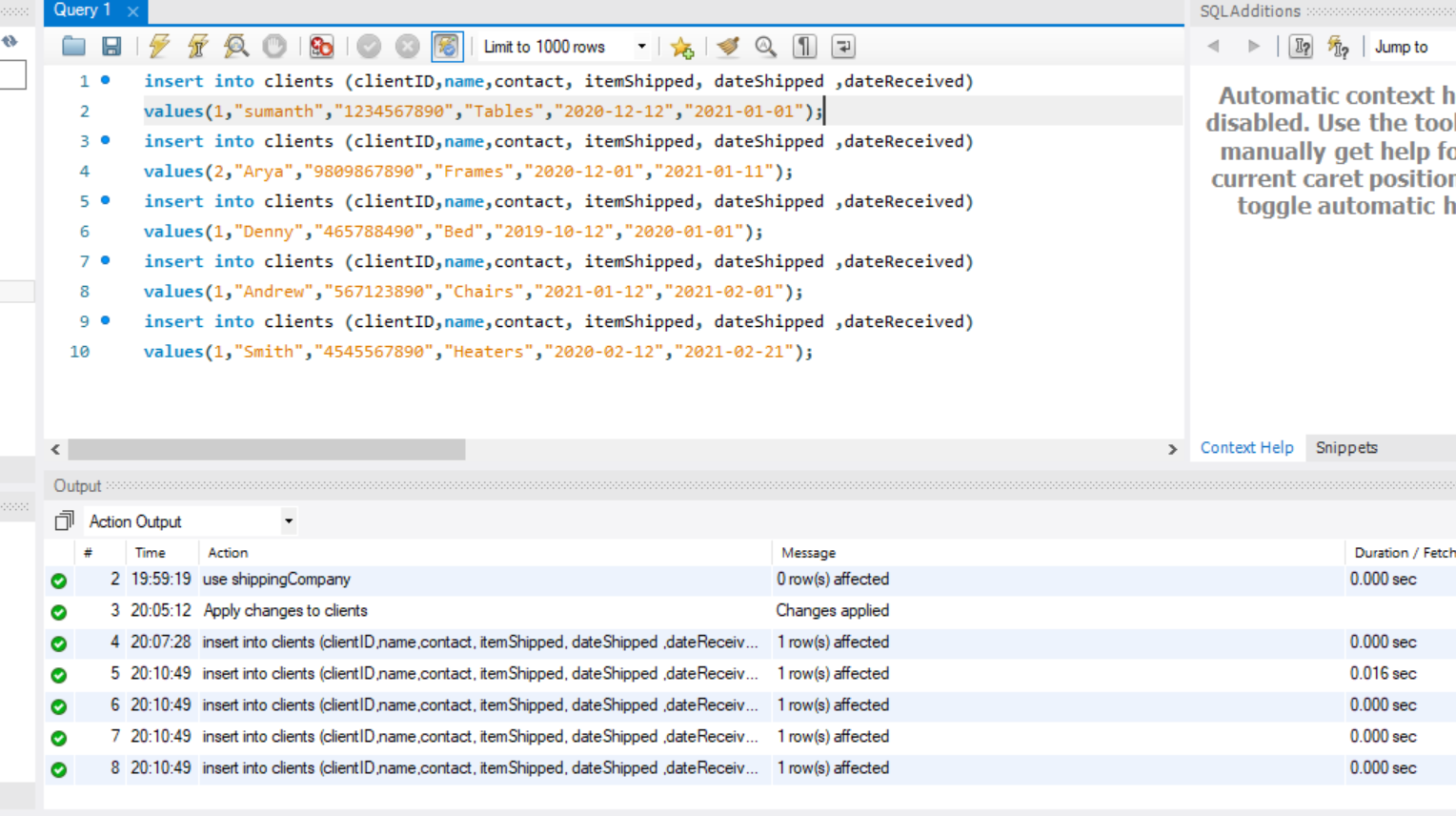
values(1,"Denny","465788490","Bed","2019-10-12","2020-01-01");

insert into clients (clientID,name,contact, itemShipped, dateShipped ,dateReceived)

values(1,"Andrew","567123890","Chairs","2021-01-12","2021-02-01");

insert into clients (clientID,name,contact, itemShipped, dateShipped ,dateReceived)

values(1,"Smith","4545567890","Heaters","2020-02-12","2021-02-21");



b) Display all the Clients Record in your JSP page View as a table. 20

c) Add a new Client Record in to the database using a button on your view page. 20

d)Delte a Client Record using a Delete button on your view page. 20

e) Use BootStrap Library and create separate DAO class for Crud operations.Try to create separate methods for all crud operations. 30

***Client Class***

**package** com.shipping\_Company.model;

**public** **class** Client {

//client variables

**private** **int** clientID;

**private** String name;

**private** String contact;

**private** String itemShipped;

**private** String dateShipped;

**private** String dateReceived;

//constructor

**public** Client(**int** clientID, String name, String contact, String itemShipped, String dateShipped, String dateReceived) {

**super**();

**this**.clientID = clientID;

**this**.name = name;

**this**.contact = contact;

**this**.itemShipped = itemShipped;

**this**.dateShipped = dateShipped;

**this**.dateReceived = dateReceived;

}

//getters and setters

**public** **int** getClientID() {

**return** clientID;

}

**public** **void** setClientID(**int** clientID) {

**this**.clientID = clientID;

}

**public** String getName() {

**return** name;

}

**public** **void** setName(String name) {

**this**.name = name;

}

**public** String getContact() {

**return** contact;

}

**public** **void** setContact(String contact) {

**this**.contact = contact;

}

**public** String getItemShipped() {

**return** itemShipped;

}

**public** **void** setItemShipped(String itemShipped) {

**this**.itemShipped = itemShipped;

}

**public** String getDateReceived() {

**return** dateReceived;

}

**public** **void** setDateReceived(String dateReceived) {

**this**.dateReceived = dateReceived;

}

**public** String getDateShipped() { **return** dateShipped; }

**public** **void** setDateShipped(String dateShipped) {

**this**.dateShipped = dateShipped;

}

**public** Client() {

**super**();

// **TODO** Auto-generated constructor stub

}

//toString method

@Override

**public** String toString() {

**return** "Client [clientID=" + clientID + ", name=" + name + ", contact=" + contact + ", itemShipped="

+ itemShipped + ", dateReceived=" + dateReceived + ", dateShipped=" + dateShipped + "]";

}

}

**ClientDao.java**

package com.shipping\_Company.model;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.ResultSet;

import java.sql.SQLException;

import java.util.ArrayList;

import java.util.List;

import com.mysql.jdbc.PreparedStatement;

import com.mysql.jdbc.Statement;

public class ClientDao {

//get Connection method

public Connection getConnection() throws SQLException{

//mysql database connection details

String url = "jdbc:mysql://127.0.0.1:3306/shippingcompany";

String user = "root";

String pwd = "sumanthRAJU1998";

Connection con = null ;

//database connectivity code

try {

Class. forName("com.mysql.jdbc.Driver");

con = DriverManager.getConnection(url,user,pwd);

System.out.println("connection sucessfull !!!");

}

catch(ClassNotFoundException e){

e.printStackTrace();

}

return con;

}

public int insertRec(Client cl) throws SQLException {

Connection con = getConnection();

String sql = "insert into clients (clientID,name,contact, itemShipped, dateShipped ,dateReceived) values(?,?,?,?,?,?)";

int status = 0;

try {

PreparedStatement pstmt = (PreparedStatement) con.prepareStatement(sql);

pstmt.setInt(1, cl.getClientID());

pstmt.setString(2, cl.getName());

pstmt.setString(3, cl.getContact());

pstmt.setString(4, cl.getItemShipped());

pstmt.setString(5, cl.getDateShipped());

pstmt.setString(6, cl.getDateReceived());

status = pstmt.executeUpdate();

if (status > 0) {

System.out.println("Record Inserted Successfully!!!"); }

else {

System.out.println("Try Again!");

}

} catch (SQLException e) {

// TODO Auto-generated catch block

e.printStackTrace();

}

return status;

}

public List<Client> showAllRec() throws SQLException {

List<Client> c = new ArrayList<>();

String sql = "select \* from clients";

Connection con = getConnection();

try {

Statement stmt = (Statement) con.createStatement();

ResultSet rs = stmt.executeQuery(sql);

while (rs.next()) {

Client cl = new Client(rs.getInt(1), rs.getString(2), rs.getString(3), rs.getString(4),

rs.getString(5), rs.getString(6)); c.add(cl);

}

} catch (SQLException e) {

// TODO Auto-generated catch block

e.printStackTrace();

}

return c;

}

public int delRecById(int clientId) throws SQLException {

String sql = "delete from clients where clientID=?";

int status = 0 ;

Connection con = getConnection();

try {

PreparedStatement pstmt = (PreparedStatement) con.prepareStatement(sql);

pstmt.setInt(1, clientId);

status = pstmt.executeUpdate();

if(status>0) {

System.out.println("Record Deleted!");

}

else {

System.out.println("Please Try Again!");

}

} catch (SQLException e) {

// TODO Auto-generated catch block

e.printStackTrace();

}

return status;

}

public Client getRecById(int curr\_id) throws SQLException {

String sql = "select \* from clients where clientID=?";

Connection con = getConnection();

Client cl = null ;

try {

PreparedStatement pstmt = (PreparedStatement) con.prepareStatement(sql);

pstmt.setInt(1,curr\_id);

ResultSet rs = pstmt.executeQuery();

if(rs.next()) {

cl = new Client(rs.getInt(1),rs.getString(2),rs.getString(3),rs.getString(4),rs.getString(5),rs.getString(6));

}

} catch (SQLException e) {

// TODO Auto-generated catch block

e.printStackTrace();

}

return cl;

}

public int updateRec(Client updated\_clnt,int old\_id) throws SQLException {

//update sql statement based on clientID

String sql = "update clients set clientID=?,name=?,contact=?,itemShipped=?,dateShipped=?,dateReceived=? where clientID=?";

int status = 0 ;

Connection con = getConnection();

try {

PreparedStatement pstmt = (PreparedStatement) con.prepareStatement(sql);

pstmt.setInt(1, updated\_clnt.getClientID());

pstmt.setString(2, updated\_clnt.getName());

pstmt.setString(3, updated\_clnt.getContact());

pstmt.setString(4, updated\_clnt.getItemShipped());

pstmt.setString(5, updated\_clnt.getDateShipped());

pstmt.setString(6, updated\_clnt.getDateReceived());

pstmt.setInt(7,old\_id);

status = pstmt.executeUpdate();

if(status>0) {

System.out.println("Record Updated Successfully!"); }

else {

System.out.println("Please Try Again!");

}

} catch (SQLException e) {

// TODO Auto-generated catch block

e.printStackTrace();

}

return status;

}

public int checkRecExist(int id) throws SQLException {

int status = 0;

//select query to get record based on clientID

String sql = "select \* from clients where clientID = "+id;

Connection con = getConnection();

try {

Statement stmt = (Statement) con.createStatement();

ResultSet rs = stmt.executeQuery(sql);

if(!rs.isBeforeFirst()) {

status = 1;

}

} catch (SQLException e) {

// TODO Auto-generated catch block

e.printStackTrace();

}

return status;

}

}

**ClientServlet.java**

**package** com.shipping\_Company.model;

**import** java.io.IOException;

**import** java.io.PrintWriter;

**import** java.sql.SQLException;

**import** java.util.List;

**import** javax.servlet.ServletException;

**import** javax.servlet.annotation.WebServlet;

**import** javax.servlet.http.HttpServlet;

**import** javax.servlet.http.HttpServletRequest;

**import** javax.servlet.http.HttpServletResponse;

**import** javax.servlet.http.HttpSession;

/\*\*

\* Servlet implementation class ClientServlet

\*/

@WebServlet("/")

**public** **class** ClientServlet **extends** HttpServlet {

**private** **static** **final** **long** ***serialVersionUID*** = 1L;

/\*\*

\* **@see** HttpServlet#HttpServlet()

\*/

**public** ClientServlet() {

**super**();

// **TODO** Auto-generated constructor stub

}

/\*\*

\* **@see** HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)

\*/

**protected** **void** doGet(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {

// **TODO** Auto-generated method stub

response.setContentType("text/html");

PrintWriter out = response.getWriter();

String url = request.getServletPath();

**switch**(url){

**case** "/display":{

display(request, response);

**break** ;

}

**case** "/insert":{

insert(request, response);

**break**;

}

**case** "/edit":{

editRec(request, response);

**break**;

}

**case** "/delete":{

delete(request, response);

**break**;

}

**case** "/update":{

update(request, response);

**break**;

}

**default**:{

out.print("Please enter a valid Url!!!!!");

}

}

}

**private** **void** update(HttpServletRequest request, HttpServletResponse response) **throws** IOException {

// **TODO** Auto-generated method stub

**int** upd\_id = Integer.*parseInt*(request.getParameter("upd\_id"));

String upd\_name = request.getParameter("upd\_name");

String upd\_contact = request.getParameter("upd\_contact");

String upd\_getShippedItem = request.getParameter("upd\_getShippedItem");

String upd\_getDateShipped = request.getParameter("upd\_getDateShipped");

String upd\_getDateReceived = request.getParameter("upd\_getDateReceived");

HttpSession session = request.getSession();

**int** old\_id = (**int**) session.getAttribute("old\_id");

Client updated\_emp = **new** Client(upd\_id,upd\_name,upd\_contact,upd\_getShippedItem, upd\_getDateShipped, upd\_getDateReceived);

ClientDao obj = **new** ClientDao();

**int** status = 0;

**if**(upd\_id != old\_id) {

**try** {

status = obj.checkRecExist(upd\_id);

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block

e.printStackTrace();

}

}**else** {

status = 1;

}

**if**(status == 1) {

**try** {

status = obj.updateRec(updated\_emp, old\_id);

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block

e.printStackTrace();

}

display(request, response);

}**else** {

PrintWriter out = response.getWriter();

out.println("Client Id already exist");

}

}

**private** **void** delete(HttpServletRequest request, HttpServletResponse response) **throws** IOException {

// **TODO** Auto-generated method stub

ClientDao obj = **new** ClientDao();

**int** cl\_id = Integer.*parseInt*(request.getParameter("cl\_id"));

**try** {

obj.delRecById(cl\_id);

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block

e.printStackTrace();

}

display(request, response);

}

**private** **void** editRec(HttpServletRequest request, HttpServletResponse response) **throws** IOException {

// **TODO** Auto-generated method stub

**int** cl\_curr\_id = Integer.*parseInt*(request.getParameter("cl\_id"));

ClientDao obj = **new** ClientDao();

//get info of client to be edited in cl by calling getRwcById method of ClientDao

Client cl = **null**;

**try** {

cl = obj.getRecById(cl\_curr\_id);

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block

e.printStackTrace();

}

HttpSession session = request.getSession();

//set clntToBeUpdated which stores client record to be updated

session.setAttribute("clntToBeUpdated",cl );

//previous id of client

session.setAttribute("old\_id",cl\_curr\_id );

response.sendRedirect("update.jsp");

}

**private** **void** insert(HttpServletRequest request, HttpServletResponse response)**throws** ServletException, IOException {

// **TODO** Auto-generated method stub

response.setContentType("text/html");

//get parameters coming from form

**int** id = Integer.*parseInt*(request.getParameter("cl\_id"));

String name = request.getParameter("cl\_name");

String contact = request.getParameter("cl\_contact");

String item\_shipped = request.getParameter("item\_shipped");

String date\_shipped = request.getParameter("date\_shipped");

String date\_received = request.getParameter("date\_received");

//set client obj with data

Client e = **new** Client(id,name,contact,item\_shipped, date\_shipped,date\_received);

ClientDao obj = **new** ClientDao();

**int** status = 0;

**try** {

status = obj.checkRecExist(id);

} **catch** (SQLException e1) {

// **TODO** Auto-generated catch block

e1.printStackTrace(); }

**if**(status == 1) {

**try** {

status = obj.insertRec(e);

} **catch** (SQLException e1) {

// **TODO** Auto-generated catch block

e1.printStackTrace();

}

display(request, response);

}**else** {

PrintWriter out = response.getWriter();

out.println("Client Id already exist");

}

}

**private** **void** display(HttpServletRequest request, HttpServletResponse response) **throws** IOException {

// **TODO** Auto-generated method stub

response.setContentType("text/html");

ClientDao obj = **new** ClientDao();

List<Client> clientList = **null**;

**try** {

clientList = obj.showAllRec();

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block

e.printStackTrace();

}

HttpSession session = request.getSession();

session.setAttribute("clientList", clientList);

response.sendRedirect("display.jsp");

}

/\*\*

\* **@see** HttpServlet#doPost(HttpServletRequest request, HttpServletResponse response)

\*/

**protected** **void** doPost(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {

// **TODO** Auto-generated method stub

doGet(request, response);

}

}

***Display.jsp***

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

<%@ page import=*"java.util.\*,com.shipping\_Company.model.\*"* %>

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<title>Clients</title>

<link rel=*"stylesheet"* href=*"https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/css/bootstrap.min.css"*>

</head>

<body>

<%

List<Client> clients = (List) session.getAttribute("clientList");

%>

<table class=*"table table-striped"* border= *"5px solid"* >

<tr><th>Client Id</th> <th> Name</th> <th>Contact</th> <th>Item Shippes</th> <th>Date Shipped</th> <th>Date Received</th> <th>Update</th> <th>Delete</th></tr>

<%

**for**(Client b: clients){

out.print("<tr><td>"+b.getClientID()+"</td> <td>"+b.getName()+"</td> <td>"+b.getContact()+"</td> <td>"+b.getItemShipped()+"</td> <td>"+b.getDateShipped()+"</td> <td>"+b.getDateReceived()+"</td> <td><a class='btn btn-primary' href='edit?b\_id="+b.getClientID()+"' role='button'>Update</a></td> <td><a class='btn btn-primary' href='delete?b\_id="+b.getClientID()+"' role='button'>Delete</a></td> </tr>");

}

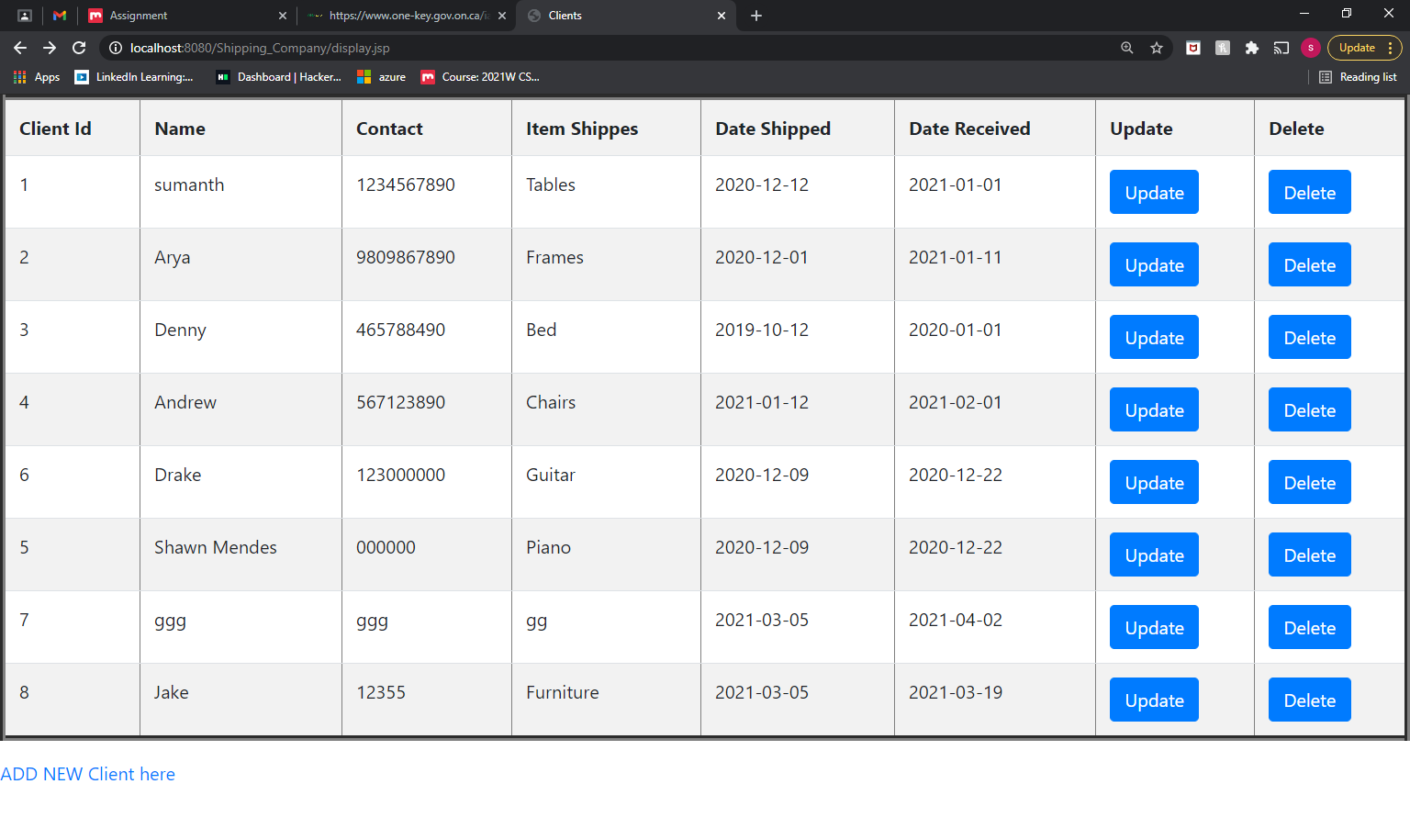
%>

</table>

<a href=*'insert.jsp'*>ADD NEW Client here</a><br><br>

</body>

</html>



***Insert.jsp***

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<title>Insert Client </title>

<link rel=*"stylesheet"* href=*"https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/css/bootstrap.min.css"*>

</head>

<body>

<form action=*"insert"* >

<div class=*"form-group col-sm-5"*>

<label for=*"cl\_id"*>Client ID</label>

<input type=*"text"* class=*"form-control"* id=*"cl\_id"* name=*"cl\_id"* placeholder=*"Enter Client Id"*>

</div>

<div class=*"form-group col-sm-5"*>

<label for=*"cl\_name"*>Client Name</label>

<input type=*"text"* class=*"form-control"* id=*"cl\_name"* name=*"cl\_name"* placeholder=*"Enter Client Name"*>

</div>

<div class=*"form-group col-sm-5"*>

<label for=*"cl\_contact"*>Client Contact</label>

<input type=*"text"* class=*"form-control"* id=*"cl\_contact"* name=*"cl\_contact"* placeholder=*"Enter Client Contact"*>

</div>

<div class=*"form-group col-sm-5"*>

<label for=*"item\_shipped"*>Item Shipped</label>

<input type=*"text"* class=*"form-control"* id=*"item\_shipped"* name=*"item\_shipped"* placeholder=*"Enter Item Shipped"*>

</div>

<div class=*"form-group col-sm-5"*>

<label for=*"date\_shipped"*>Date Shipped</label>

<input type=*"date"* class=*"form-control"* id=*"date\_shipped"* name=*"date\_shipped"* placeholder=*"Enter Date Shipped"*>

</div>

<div class=*"form-group col-sm-5"*>

<label for=*"date\_received"*>Date Received</label>

<input type=*"date"* class=*"form-control"* id=*"date\_received"* name=*"date\_received"* placeholder=*"Enter Date Received"*>

</div>

<button type=*"submit"* class=*"btn btn-primary"*>Submit</button>

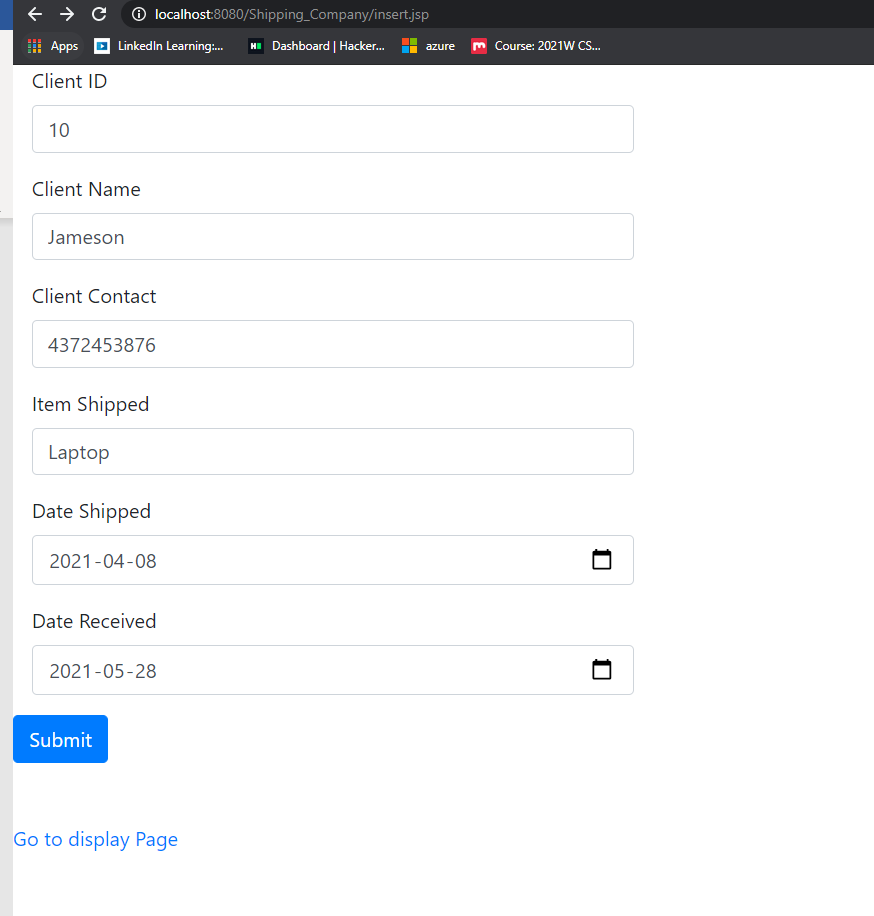
</form>

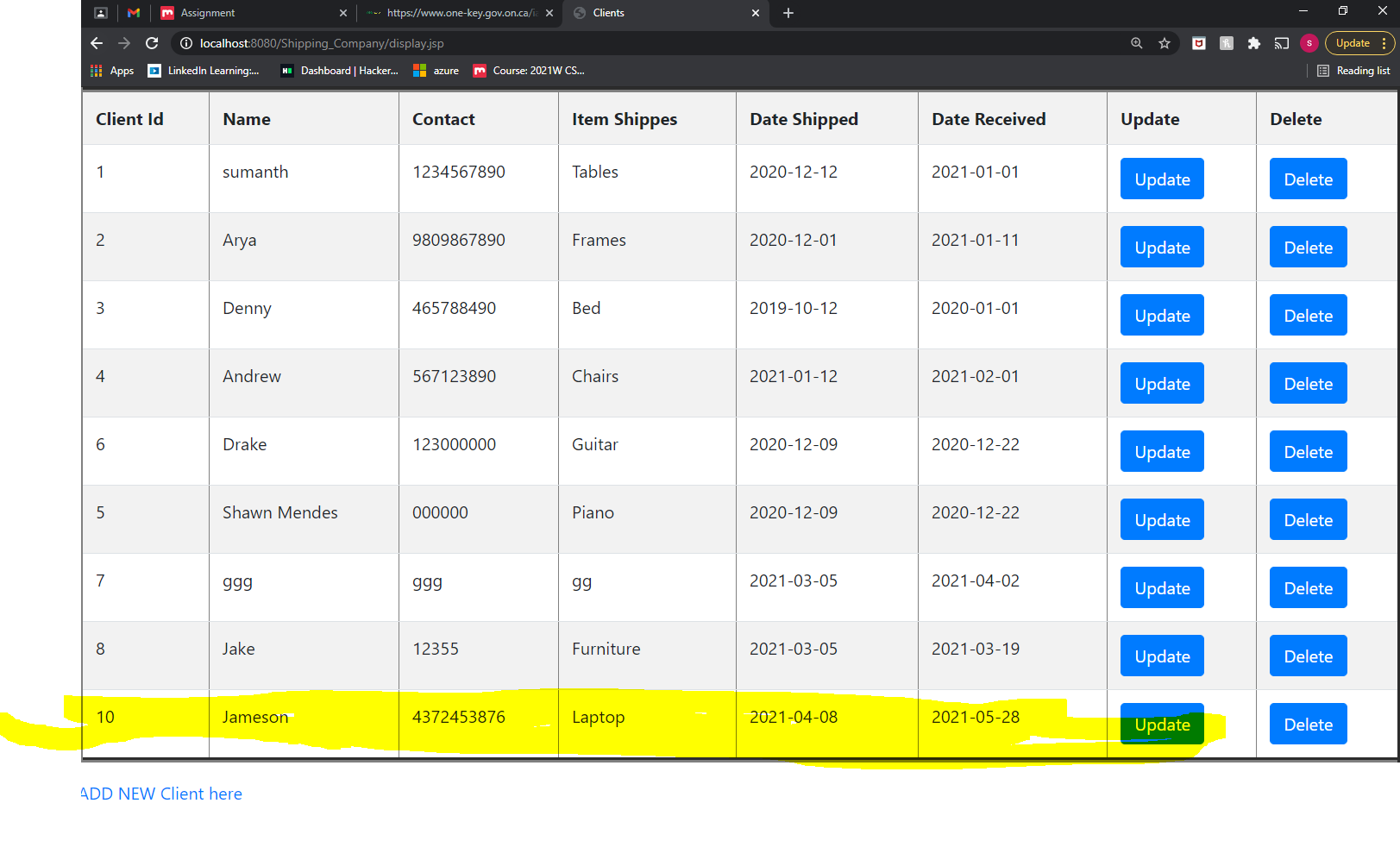
<br><br>

<a href=*"display.jsp"*>Go to display Page</a>

</body>

</html>





***Update.jsp***

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

<%@ page import=*"com.shipping\_Company.model.\*"* %>

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<title>Update Client Info</title>

<link rel=*"stylesheet"* href=*"https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/css/bootstrap.min.css"*>

</head>

<body>

<%

Client client = (Client)session.getAttribute("clntToBeUpdated");

%>

<form action=*"update"*>

<div class=*"form-group col-sm-5"*>

<label for=*"upd\_id"*>Client ID</label>

<input type=*"text"* class=*"form-control"* id=*"cl\_id"* name=*"upd\_id"* placeholder=*"Enter Client Id"* value=*"*<%=client.getClientID() %>*"*>

</div>

<div class=*"form-group col-sm-5"*>

<label for=*"upd\_name"*>Client Name</label>

<input type=*"text"* class=*"form-control"* id=*"upd\_name"* placeholder=*"Enter Client Name"* name=*"upd\_name"* value=*"*<%=client.getName() %>*"* >

</div>

<div class=*"form-group col-sm-5"*>

<label for=*"upd\_contact"*>Client Contact</label>

<input type=*"text"* class=*"form-control"* id=*"upd\_contact"* placeholder=*"Enter Client Contact"* name=*"upd\_contact"* value=*"*<%=client.getContact() %>*"* >

</div>

<div class=*"form-group col-sm-5"*> <label for=*"upd\_getShippedItem"*>Item Shipped</label>

<input type=*"text"* class=*"form-control"* id=*"upd\_getShippedItem"* placeholder=*"Enter Item Shipped"* name=*"upd\_getShippedItem"* value=*"*<%=client.getItemShipped() %>*"* >

</div>

<div class=*"form-group col-sm-5"*>

<label for=*"upd\_getDateShipped"*>Date Shipped</label>

<input type=*"date"* class=*"form-control"* id=*"upd\_getDateShipped"* placeholder=*"Enter Date Shipped"* name=*"upd\_getDateShipped"* value=*"*<%=client.getDateShipped() %>*"*>

</div>

<div class=*"form-group col-sm-5"*>

<label for=*"upd\_getDateReceived"*>Date Received</label>

<input type=*"date"* class=*"form-control"* id=*"upd\_getDateReceived"* placeholder=*"Enter Date Received"* name=*"upd\_getDateReceived"* value=*"*<%=client.getDateReceived() %>*"*>

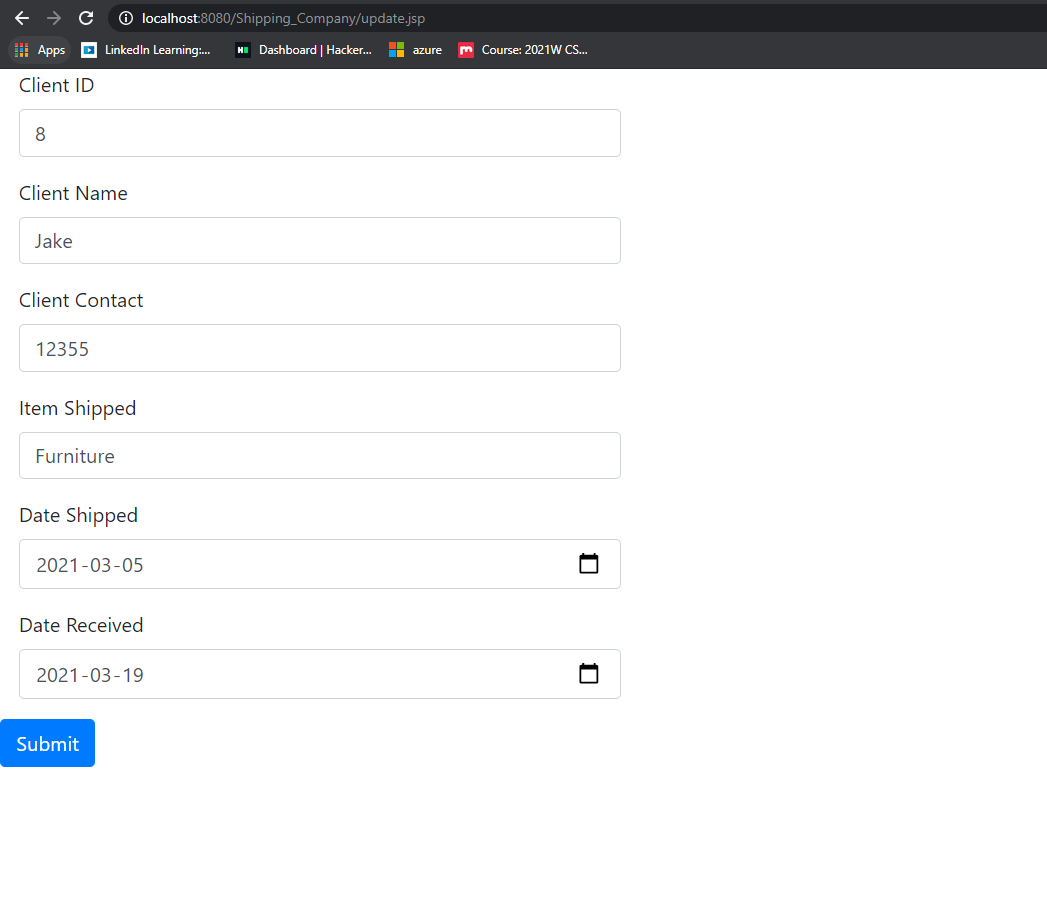
</div>

<input type=*"submit"* class=*"btn btn-primary"* value=*"Submit"*>

</form>

</body>

</html>



AFTER DELETE 